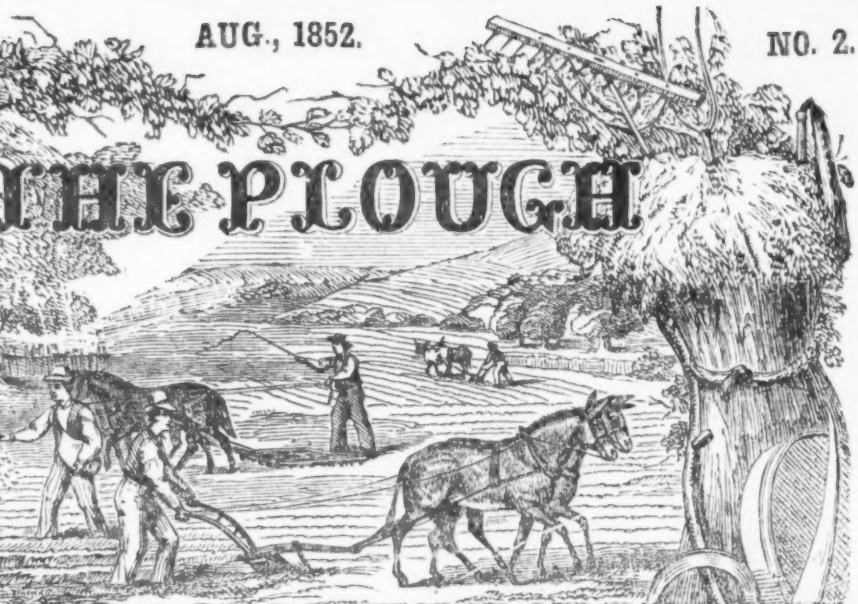
VOL V. AUG., 1852. NO. 2.

THE PLOUGH

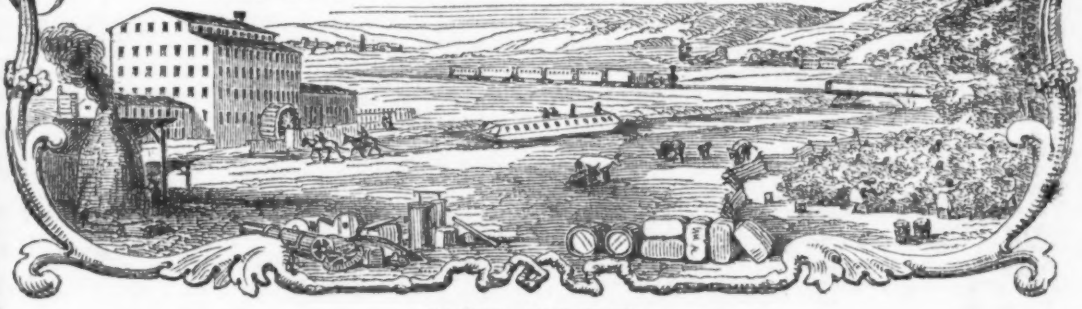


THE LOOM AND THE ANVIL.

F. G. SKINNER AND MYRON FINCH, EDITORS.

MOSES P. PARISH, ASSISTANT EDITOR.

DEVOTED TO SCIENTIFIC AND PRACTICAL AGRICULTURE—MANUFACTURES—MECHANICS—NEW INVENTIONS—A SOUND PROTECTIVE POLICY—FARM BUILDINGS—COTTAGE DESIGNS—FRUIT TREES—FLOWERS—GARDENING—BEES, CATTLE, HORSES, HOGS, SHEEP, POULTRY, &c.



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The Plough, the Loom, and the Anvil.

EDITED BY F. G. SKINNER AND MYRON FINCH.

MOSES P. PARISH, Assistant Editor and General Agent.

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The Plough, the Loom, and the Anvil.

VOL. V. AUGUST, 1852. No. 2.

HOW VIRGINIA SELLS IN THE CHEAPEST MARKET AND BUYS IN THE DEAREST ONE.

"IF the farmer would only see his real standing, his true relation to society, he would be equally amazed at his own thoughtlessness and the temerity of other classes who would exalt themselves above him. The farmer is the head and front of the community: he is the foundation of all prosperity, either in the commercial, or mechanical, or the literary world. Without him, the wings of the navy and the sails of the merchantman would cease to expand themselves to the winds of heaven. Without him, the busy hum of the factory and the machine-shop would be hushed in the silence of the grave; without him, the sparkling wit would grow dull; genius turn to stupidity; the pen of the historian would drop from his nerveless hand; the tongue of the orator stammer; literary men would cease to write, and lawyers to plead. The farmer sustains the same relation to the community that the sun in the heavens sustains to him; and as well might the community attempt to move without the farmer as the farmer attempt to grow his grain without the influence of the sun. He is emphatically the *sun* of *their prosperity;* without him, all would be wrapped in one rayless, starless, cheerless night.

"And yet, Mr. Editor, this is the man who toils for the people, drudges for the community; more patient of labour than the mule, more uncomplaining than the ox. He must be scorched by the sun, pelted by the storm, endure the heat of summer, the cold blasts of winter; rise early, toil the livelong day, and then—then feel himself happy to commit the effects of his hard labour to the non-producer, to send many, many miles to find a market, instead of making a market at home; and then, as the other part of this system, to send for those things he needs, and which ought to be produced in his own neighbourhood. This is, as you and we all feel, the sad state of things at present; but the dawning of a brighter day begins to streak the distant hills, all radiant with the hope of a better time, not for the farmer *only*, but for *every* part of the community. No mistake can be greater or more fatal to the hope of all mankind, than to think that the different callings in life—to think that the plough, the loom, and the anvil clash in their respective interests."

WE take the above from the letter of a Virginia correspondent, given in full in our May number; and do so because we deem it scarcely possible that any one can read it without being induced at least to reflect upon the fact that the cultivator of the earth, the man to whose labours we are indebted for all we eat and all we wear, is everywhere little better than the slave of his necessities—everywhere little better than the mere hewer of wood and drawer of water for the men who stand between him and his customers, enriching themselves at the expense of both. In saying this, we beg not to be understood as desiring in the slightest degree to undervalue the services rendered by men who convert the wheat into flour or the cotton into cloth, or by those who perform the works of transportation and exchange. All are useful and all necessary; but it is neither necessary nor useful that the farmer should be compelled to exhaust his land and himself to obtain a mere subsistence, while millions are being accumulated by the men who add nothing to the *quantity* of commodities to be consumed, and who render to the people of the world no service but that of changing the *form* of those commodities, or changing the *place* at which they may be consumed; and yet, look where we may, we find that such is the fact. The traders are

everywhere masters of the producers; and it is with a view to the extension and perpetuation of the system, that Manchester and Birmingham teach that species of free trade so emphatically reprobated by ADAM SMITH as "a manifest violation of the most sacred rights of mankind." It is that species of free trade which has sunk the value of the cotton of India to two or three cents per pound, one-half of which is taken from its poor producer for the purpose of paying judges whose salaries are fifty thousand dollars a year, and governors who receive from fifty to a hundred and twenty thousand dollars, a year, for maintaining order among a wretched people who feel themselves rich if they can earn two dollars a month. It is that species of free trade which has exhausted Ireland, and has starved or expelled its population, until it now but little exceeds the amount at which it stood forty years since, while the traders of London and Liverpool, Manchester and Birmingham, were accumulating fortunes that counted by millions of pounds sterling. It is that species of free trade which has ruined the people of Portugal and Turkey, and has sunk those countries to their present condition of miserable dependence. It is the same species of free trade that now seeks to reduce this country to a similar one, and is fast accomplishing its object.

We are all of us foes to political centralization. We have limited the power of the General Government within the narrowest bounds. We have insisted on State rights, and have passed various bodies of resolutions having for their object the declaration of those rights and their maintenance. Nevertheless, while all are opposed to *political* centralization, we have everywhere among us advocates of the *commercial* centralization of Manchester and Birmingham—the system which looks everywhere to compelling the farmers and planters of the world to do as do the slaves of the South—sell all their products in one market, and buy in that same market all they require to consume. The law requires that the slave shall yield up to his master all that he produces, leaving to that master the power to determine what he will give in exchange for it. Manchester and Birmingham require that their slaves shall have but one market at which they can exchange their wool and their food for cloth and iron, paper or silks, reserving to themselves the power of determining the price at which they will receive the corn or the cotton, and also the price at which they will give the cloth or the iron. The consequence of this is, that of all the slaves in the world, the poorest and most wretched are those who find themselves compelled to submit to this system of oppression—as witness the people of Ireland and of India, of Portugal and of Turkey, and of all the countries of the world that have with Great Britain that species of intercourse known, in the vocabulary of Manchester, by the name of free trade.

Among the *opponents* of political centralization Virginia has always occupied a distinguished position. To her we are indebted for the resolutions of '98. Among the *advocates* of commercial centralization she has likewise been distinguished. To her we are largely indebted for the tariff of '46, and to her we shall probably be indebted for the continuance of the existing system, until it shall result in another convulsion similar to that we witnessed ten years since. Abounding in coal and iron ore, she is determined that she will not make her own iron. Abounding in water-power, she permits it all to run to waste, and goes abroad for her cloth. Abounding in food, she prefers the distant market to the near one, although every farmer within the State knows that he it is that must pay the cost of going to market, and that the greater the distance the greater must be the cost of transportation. Abounding in land, her people are perpetually seeking in

other States the subsistence denied to them at home. First among the States at the formation of the Constitution, she now stands fourth, with every prospect that at no distant day she will rank as the tenth; and yet her people cannot awake to the fact that this retrogradation is due to the maintenance of the system of commercial slavery fastened upon the world by Great Britain. That they should so long have continued blind to the fact that *it is* slavery, appears to us most wonderful; for to some of her citizens we have been indebted for most accurate descriptions of the depressed state of her agriculture resulting from a continued dependence on foreign markets, of one of which we have been reminded by the receipt of this letter from our Virginia correspondent, and from which we propose now to make some extracts, by which our readers cannot, as we think, fail to profit.

The paper to which we refer, is an Address delivered by the Hon. ANDREW STEVENSON, before the Agricultural Society of Albemarle. Its author having always been a consistent opponent of the system which looks to bringing the loom and the anvil to the side of the plough and the harrow, no objection can be made to the statements which we shall now submit, on the ground of their having been coloured with a view to prove the destructive effects that have here, as everywhere, resulted from want of that diversification of labour and combination of action so necessary to every advance in the prosperity of man, or in the power of nations. Its chief object was that of bringing before the Society "the present state and condition of agriculture in Virginia," the "depressed and wretched condition" of which the speaker regarded as being quite too familiar to his hearers to render it necessary that he should attempt to impress it more fully upon their minds. He thought it expedient, nevertheless, to call their attention to a paper then recently published by Mr. Skinner, late editor of this journal, describing the agriculture of the State in a manner that he regarded as being "not less true than appalling"—as "calculated to make every Virginian, who reads it, feel that in agriculture, as in most other human affairs," there is

> "In the lowest deep, a lower deep,
> Still threatening to devour;"

and as establishing "the solemn but painful truth that Virginia is wofully deficient in her agriculture, and far behind her sister States."

Looking next to what is the "real situation" of things, the speaker asks, "Is there an intelligent and impartial man who can cast his eyes over the State and not be impressed with the truth, deplorable as it is afflicting, that the produce of most of our lands is not only small in proportion to the extent in cultivation, but that the lands themselves have been gradually sinking and becoming worse, under a most defective and ruinous system of cultivation?" "The truth is," he continues, "we must all feel and know that the spirit of agricultural improvement has been suffered to languish too long in Virginia, and that it is now reaching a point, in the descending scale, from which, if it is not revived, and that very speedily, our State must continue not only third or fourth in population, as she now is, but consent to take her station among her smaller sisters of the Union."

The cause of this unhappy state of things he regards as being to be found in "a disregard of scientific knowledge" and "a deep-rooted attachment to old habits of cultivation," together with the "practice of hard cropping and injudicious rotation of crops, leading them to cultivate more land than they can manure, or than they have the means of improving;" and the conse-

quences are found in the fact that in all the country east of the Blue Ridge, the average product of wheat "does not come up to seven bushels to the acre," four of which are required to restore the seed and defray the cost of cultivation, leaving to the land-owner for his own services and those of a hundred acres of land, three hundred bushels, worth, at present prices, probably two hundred and forty dollars! Even this, however, is not as bad an exhibit as is produced in reference to another populous district of more than a hundred miles in length—that between Lynchburg and Richmond—in which the product is estimated at *not exceeding six bushels to the acre!* Under such circumstances, we can scarcely be surprised to learn from the speaker that the people of his great State, where meadows abound and marl exists in unlimited quantity, import potatoes from the poor States of the North, and are compelled to be dependent upon them for hay and butter, the importers of which realize fortunes, while the farmers around them are everywhere exhausting their land and obtaining smaller crops in each successive year.

Why is this so? Why should Virginia import potatoes and hay, beef and butter? An acre of potatoes may be made to yield four hundred bushels, and the meadow yield hay by tons, and yet her people raise wheat, of which they obtain six or seven bushels to the acre, and corn, of which they obtain fifteen or twenty, and with the produce of these they buy butter and cheese, pork and potatoes, which yield to the producer five dollars where they get one—and import many of these things, too, from States in which manufacturing populations abound, and in which all these commodities should, in the natural course of things, be higher in price than in Virginia, where all, when employed at all, are engaged in the cultivation of the soil. The answer to these questions is to be found in the fact that the farmers and planters of the State make no manure. They raise wheat and corn, which they send elsewhere to be consumed; and the people among whom it is consumed put the refuse on their own lands, and thus are enabled to raise crops that count by tons, which they then exchange with the producers of the wheat produced on land that yields six bushels to the acre.

Virginia buys hay, which is therefore dear, because it pays not only the cost of cultivation, but also the cost of transportation, and the profits of the merchants who accumulate fortunes; she sells wheat, out of the price of which must be paid not only the cost of cultivation but that of transportation, and merchants' profits; and thus is she always selling in the cheapest market while buying in the dearest one. The necessary consequence of this is the exhaustion of the land, followed by the exhaustion of its owner, and that in turn followed by the abandonment of the land, and the weakening of the State, and its gradual decline from the high position it once occupied to that of the fourth State in the Union. Such a state of things is well calculated to call forth the regrets of every man who feels a pride in his native State; and it is therefore no matter of surprise that we find in this address the strongest expression of the "mortification and pain" of the author when called upon to present to his readers the fact, that there is a constant "stream of emigration from the middle and lowland regions" of the "beloved commonwealth," calculated, as he thinks, to excite in their minds feelings of "bitter anguish." "How many of our population," continues the speaker—

"Do we see disposing of their lands at ruinous prices, and relinquishing their birthplaces and friends, to settle themselves in the West; and many not so much from choice as from actual inability to support their families and rear and educate

their children, out of the produce of their exhausted lands—once fertile, but rendered barren and unproductive by a ruinous system of cultivation.

"And how greatly is this distress heightened, in witnessing, as we often do, the successions and reverses of this struggle between going and staying, on the part of many emigrants. And how many are there, who after removing, remain only a few years, and then return to seize again upon a portion of their native land, and die where they were born. How strongly does it remind us of the poor shipwrecked mariner, who, touching in the midst of the storm the shore, lays hold of it but is borne seaward by the receding wave; but struggling back, torn and lacerated, he grasps again the rock, with bleeding hands, and still clings to it, as a last and forlorn hope. Nor is this to be wondered at. Perhaps it was the home of his childhood—the habitation of his fathers, for past generations—the soil upon which had been expended the savings and nourishment, the energies and virtues, of a long life —'the sweat of the living, and the ashes of the dead.'

"Oh! how hard to break such ties as these.

"This is no gloomy picture of the imagination; but a faithful representation of what most of us know and feel to be true. Who is it that has not had some acquaintance or neighbour—some friend, perhaps some relative, forced into this current of emigration, and obliged from necessity, in the evening, probably, of a long life, to abandon his State and friends, and the home of his fathers and childhood, to seek a precarious subsistence in the supposed El Dorados of the West?"

This is a terrible picture, and yet it is but the index to the worse one that must follow in its train. Well does the hon. speaker say that—

"There is another evil attending this continual drain of our population to the West, next in importance to the actual loss of the population itself, and that is, its tendency to continue and enlarge our wretched systems of cultivation.

"The moment some persons feel assured that for present gain, they can exhaust the fertility of their lands, in the old States, and then abandon them for those in the West, which being rich require neither the aid of science nor art, the natural tendency is at once to give over all efforts at improvement themselves, and kill their land as quickly as possible, then sell it for what it will bring, or abandon it as a waste. And such will be found to be the case with too many of the emigrants from the lowlands of Virginia."

The more men separate from each other, the poorer they grow. From the moment a man makes up his mind that he *must* go, his every thought is given to extracting from the land all that can be gotten out of it. His stock is killed and turned into money, to enable him to pay the expenses of transporting himself and his family; and the effect of this process in the West and North-west, as well as in Virginia, is shown in the tables recently published in this journal. Our readers have there seen, that the export by the New York canals, of food yielded by *those manufacturers of manure*, the hog and the ox, which in the three years prior to the passage of the tariff act of 1842, was nearly stationary in the neighbourhood of 35,000 tons, rose gradually, after the passage of that act, until in 1848 it reached 70,000 tons, and has since gradually declined, until in the last year it amounted to only 54,000 tons, with every prospect that in the present year it will not exceed 45,000, being precisely the quantity that passed in the year 1843; and yet in the intermediate period the population of the West must have doubled, and trade has been gradually abandoning the route through New Orleans to seek the northern one. *The manufacturer of manure disappears everywhere with the disappearance of the manufacturers of iron and of cloth*, as is proved by the experience of every country of the world. Hence it is that the productiveness of agriculture diminishes as the loom and the anvil recede from the neighbourhood of the plough and the harrow.

Where men have to remain at home, they raise stock and sell pork and beef, butter and cheese, and then the value of labour and land increases,

with daily increasing tendency to remain at home and improve their modes and means of cultivation, their modes of thought, and their power to purchase cloth and iron. The greatest period of *dispersion* we have yet known was that which followed the adoption of the system of 1832, which looked to the gradual abolition of all protection to the farmer and planter in his efforts to bring the loom and the anvil to take their natural places by the side of the plough and the harrow, and the effect of this was seen in the fact that in ten years the population of Virginia increased only 28,000. The greatest period of *concentration* that the country has yet seen, was that between 1840 and 1850. From 1840 to 1842, there existed no inducements to go West. The new States were bankrupt, and road-making was at an end. In 1842, the farmers obtained efficient protection; and although the tariff then passed was nominally repealed at the close of 1846, the great speculation then existing in England, and the famine which accompanied its close, prevented us from experiencing the evil effects of the change until 1848–9, and during all that period manufactures flourished in Virginia and in her sister States. Coal and iron mines were opened, and furnaces were built, the consequence of which is now seen in the fact that in that decennial period her population increased 185,000; and had the system of 1842 remained unchanged, it would have reached 250,000, with a certainty that in the present one it would reach 400,000. Unfortunately, however, the people of the State have not yet opened their eyes to the facts that the man who *must* go to market, must pay the cost of transportation—that the thing most difficult to *take to market* is labour, which, for want of demand, is wasted annually to the amount of hundreds of millions of dollars—and that the commodity most difficult to *bring from market* is manure, all of which they waste on the road and in distant markets, and then buy in those distant markets the hay and the butter that should have been made, and the potatoes that should have been grown, at home. She sells her products in their rudest and most bulky form, and she buys the products of other communities in their rudest and most bulky form, paying the cost of transportation both ways; and thus is she always selling in the cheapest and buying in the dearest market. Such is Virginia free trade; and such it is because she is strong in her advocacy of the system that looks to enslaving the farmers and planters of the world by compelling them to look to but one market in which to buy, and but one in which to sell. Foremost in her opposition to political centralization, she stands also foremost in her advocacy of commercial centralization; although the oppressions of the latter, as now exhibited in the countries subject to it, are greater than have been exhibited in any case of the former that the world has yet seen.

England seeks to compel all the world to send to her the products of the earth in their rudest form, that her people may eat the food while converting the cotton, the silk, and the wool into cloth, and the ore into iron. The manure thus obtained goes on her own land, and makes it, as described by the speaker, "truly a garden spot." "And to what," continues the hon. gentleman, "may this be ascribed?" Not, as he truly says—

"To soil and climate, certainly, because there are few countries with a less propitious climate, less cheering sun or natural exuberance of soil, than England can boast.

"I will tell you, gentlemen, what it is. It is to be found in the fact that no country on earth is cultivated like England. It has been done by *practical science*—by establishing agricultural societies and schools, in every part of the kingdom, and by rousing the whole nation up to regard agriculture in its proper and legitimate character.

"It is because agriculture has there asserted its claims and become the road to wealth, power, and respectability. It is because men of the highest connections, and most distinguished talents, feel honoured, now, instead of being degraded, by a regular and assiduous application to the cultivation of the soil; establishing their sons in situations in which they may look to it as the means of maintaining their families, accumulating property, and doing honour and service to their country. Well has it been said to be the 'nerve of her power, and the source of her wealth,' enabling her to gather to herself, as it were, a command over the labour and wealth of the world.

"It was left for England to conquer climate and soil, and, bringing to her aid the lights of science, and the Briarean arms of the arts, to fix this noble science on its true and lofty basis."

It is quite true that much of this is due to "practical science;" but how is it that agriculture should have been enabled so much to command the aid of science, when here it so entirely fails to do it? Had the honourable gentleman asked himself that question, he would have found the reply in the word MANURE. England makes a market on her land for all the produce of the land, and she imports from every part of the earth produce in its rudest form, and all the refuse of the foreign corn, the oats, the wheat, the pork, the beef, the butter, and the cheese eaten by her people, and all the refuse of the wool, the silk, and the cotton wrought by them, goes on her own land; and thus it is that England is made a garden-spot at the cost, and by the taxation, of the farmers and planters of the world. Not content with this, she imports in a single year 250,000 tons of guano, at a cost of ten or twelve pounds sterling per ton, or from twelve to fifteen millions of dollars, and her farmers put on their lands, lime and dung, and artificial manures, at a cost of four, five, six, eight, and even nine pounds per acre; and thus it is that they are enabled to make of the whole land one great garden. The animal manure produced in England alone, in the year 1846, is estimated by Professor Thompson, at one hundred and three millions of pounds sterling, or almost *five hundred millions of dollars;* and to this is to be added all the vast amount of guano, lime, marl, and artificial manures of various kinds, making a sum far exceeding double the value of all the cotton, rice, tobacco, and wheat produced throughout this country, with its twenty-five millions of people.

How, it will be asked, can the farmers of England afford to expend such enormous sums upon manure? The answer is easy—*They pay for it out of the taxation imposed upon the farmers and planters of the rest of the world.* The rule of English policy is that of buying in the cheapest and selling in the dearest market. By inducing all the farmers and planters of the world to bring their produce there to sell, the people of England are enabled to fix the price for the crops of the world. *Mark-Lane* fixes the world's prices, and the object of *British* free trade is that of making the fortunes of the farmers and planters of the world dependent upon the casualties of English climate and the fluctuations of English policy. Its effect is that of rendering our farmers and our planters mere slaves to the descendants of the men whose oppressions roused their forefathers to the resistance which led to the Revolution of 1776. The policy of the men of England of this day is now, as it was then, that of compelling all the world, outside of England, to raise raw produce. They know well that the more numerous the sellers, and the fewer the purchasers, the lower must be the prices abroad, and the more place there must be for high freights and high commissions. They fix prices for the world, and they buy in the cheap markets whose prices they fix; and thus it is that they accumulate fortunes, while the farmer and

planter are everywhere being ruined. By maintaining a monopoly of the machinery for converting the raw produce into cloth and iron, and other commodities, they are enabled to compel the farmers and planters of the world to make their purchases there, and thus it is that they are enabled to sell in the dearest market. The price of wheat throughout the world is fixed by the price in England, and the English farmer sells at that price, always the highest in the world, and he obtains his manure back again, at slight cost for transportation. The farmer of Virginia sells his grain at the price in England, *minus* the cost of transportation, *minus* the commissions on both sides of the Atlantic, and, worst of all, *minus* the manure, which is lost to him for ever, and this is the picture presented by the whole farming interests of the Union.

Under the tariff of 1842, the domestic market for food to be consumed by the builders of mills and furnaces, steam-engines and other machinery, by the workers in mills and furnaces and mines, and by the producers of hemp and other raw materials of manufacture, grew in five years far more than a hundred millions of dollars, and all the manure that was made by this vast domestic consumption remained to go back on the land. Had that tariff remained in force, the growth of the domestic consumption of food, as compared with that of 1842, would now exceed two hundred millions of dollars; but instead of doubling, as it should have done, it has already diminished one-half, with every reason to expect that it will still further diminish. The farmers were promised a market in Europe for food to the extent of hundreds of millions of dollars, instead of which the total export of last year was but eight millions of dollars; and this year it is likely to be less, for there exists abroad no market for the produce of our farms. By the late quotations, Western, Canal, Philadelphia, Baltimore, and Canadian flour stood at 20*s.* to 20*s.* 6*d.* per barrel, if sound, and that which is sour and heated at 17*s.* to 18*s.* 6*d.* The average of these prices may be taken at 19*s.* 6*d.*, or $4.68, from which are to be deducted freights, commissions, and charges of all kinds, while the land which produces the food loses all the manure; and thus it is that Virginia and her associates in the maintenance of British centralization, impoverish their people and compel them to seek in the West that subsistence denied to them at home. Arrived in the West, they have new difficulties to encounter. Land is nominally cheap but really dear, for its cultivator has no market. Every thing that is taken from the soil is sent away, and then he finds his crops gradually diminishing, until at length he flies from Ohio or Illinois to lose his life on the road to California; and thus is it that British centralization tends to make of the farmers and planters of the country mere hewers of wood and drawers of water, for the maintenance of British power.

Bad as prospects now are for the farmers, they must be worse. The population of Great Britain and Ireland diminishes, while land-owners are forced to make increased efforts for the improvement of the land, that their tenants may be enabled by means of increased product to continue to pay their rents. The effect of these two causes is now seen in the fact that England has become a considerable exporter of food; and notwithstanding the existence of famine in Germany, prices are now almost as low in England as they have ever been known. The state of things over a considerable portion of the continent of Europe is described in the following paragraph, which we recommend to the consideration of such of our readers as may still

continue in the belief that we are to look to Europe for a market for our food :—

"The condition of the peasantry in many parts of Germany," says a correspondent of the London Times, "has, chiefly through the failure of the potato crop, last year, at length become one of such fearful and indescribable distress, that I feel sure a few particulars respecting it will prove a subject of painful interest to many of your readers. Poor Southern and Central Germany, still suffering from the baneful effects of the late political convulsions, have now, in addition, been visited by dearth, disease, and famine. Truly heart-rending accounts continue to arrive from many parts well known to and much frequented by English tourists for the beauty of their scenery; so from Wurtemburg, Bavaria, the Grand-duchy of Baden, Nassau, and more especially from the Vogelsberg and the Odenwald, rough mountainous districts —the one situated in the north-eastern part of the Grand-duchy of Hesse, the other to the north, and forming part of the 'Bergstrasse,' a road extending from Darmstadt to Heidelberg, within thirty-eight hours' reach from London, and traversed generally by excursionists on their way to Switzerland. In these localities whole villages are being deserted for want of food. Their unfortunate inhabitants, who, in times of comparative prosperity, eke out but a scanty and miserable existence, have been wanting their staple food—potatoes. In other parts, trade is standing still; of 18,000 looms, in a single province of Bavaria, almost exclusively inhabited by weavers, not half are at full work. The people are deprived alike of the productions of nature and the fruits of industry; and, to consummate wretchedness and despair, and an extreme dearth of provisions, whole herds of cattle and sheep are killed by a rapidly spreading disease."

But five years since, we were told that we needed a market abroad for four hundred millions of bushels of human food. Since then we have largely diminished the domestic market, and have added more than four millions to our agricultural population, with no increase in the foreign market. Five years hence our agricultural population will be greater than it is now by at least five millions more, and long before that time England will have provided for the supply of her whole population. What then will be the situation of the farmers of this country? Will they then be enabled to improve their modes of cultivation? Will they not have added five more years to the exhaustion of their land and themselves? Assuredly they will have done so, and then will they again hold meetings with a view to inquire why it is that agriculture goes backward instead of forward, and then again will the orator of the day close with an exhortation to farmers and planters to bestir themselves, similar to that we now copy from the address to which we have called the attention of our readers :—

"And is it at such a time, that Virginia, proud and lofty Virginia, is to falter and give back? Will she alone of all the States in this Union, suffer the paramount interest of agriculture to be dangled at the heels of every other great interest, playing a secondary and inferior part? Is this great interest to be dragged at the wheels of party, or faction, instead of asserting its rights and maintaining a chariot of its own, leading this glorious and renowned Old Commonwealth to prosperity and happiness, peace and honour? There is a redeeming spirit in her people which forbids it.

"I feel, then, my beloved fellow-citizens, that I have some right to address and admonish you. I have come to pitch my tent for life in your county; to identify myself with your interests, for weal or wo, and to lay my ashes in your soil. I call upon you, then, as Virginians, and as members of this Society—as the friends and champions and guardians of agriculture, to advocate its great cause, at home and abroad, in public and private. And, above all, I admonish you that we are letting the agricultural ship drive under bare poles, and that it will need all our power and skill to steer her before the wind, and bring her safe into port. I come this day to enlist as one of the crew, and may this right arm wither if I ever desert the ship. Never! never!"

These questions have been repeated time and again, and they will continue to be repeated until Virginia shall come to occupy the tenth position in the Union instead of the first, unless Virginians can open their eyes to the fact that they it is who constitute the chief supporters of a system of commercial centralization under which they are taxed to an extent that is scarcely to be estimated, and that the *only* remedy is to be found in bringing the loom and the anvil to take their natural places by the side of the plough and the harrow.

It will be said, however, that a market cannot be made at home for all our food. For an answer to this we beg our readers to look to the fact that the total export to all the manufacturing countries of the world amounted in the last year to only eight millions of dollars, and that the domestic consumption had then declined at least fifty millions, when it should have increased a hundred millions. Every mill that is closed drives people to the raising of food, and tends to lower the prices of the farmer. Every mill and every furnace that is opened, makes customers to the farmer, and tends to raise the prices of his produce. It is now twenty years since General Jackson wrote to his friend that the true interests of the country required that we should not force all our people into agriculture—that by permitting a portion of them to become artisans we should have more consumers of food and fewer producers, and that by that mode of operation we should be relieved from the tyranny of British merchants; and yet, from that day to this, with the exception of the period from 1843 to 1847, we have continued the policy he then denounced. Nothing would be easier than to make a market on the land for all the products of the land; and the consequence would be that the farmers would then cease to be the mere hewers of wood and drawers of water for the middlemen who stand between them and their customers. The price of wool is now higher here than elsewhere in the world. Why is it so? Because the home demand is greater than the home supply. The price of pork and beef is now likely to be higher than elsewhere in the world, and for the same reason. We now make so little that the time appears to be at hand when we shall need it all at home. So long as there exists *a necessity* for sending abroad a single million of bushels of wheat, the price of that million sent to the distant market must fix the price of the whole crop; and so long as that shall continue to be the case, the farmers of Virginia and of Pennsylvania, of Ohio and of Indiana, Illinois and Wisconsin, must continue to sell in the cheapest market, as now do sell the producers of cotton. Let them once determine to create for themselves *the power* to have the produce consumed at home, and they will thereafter sell in the dearest market, as now do sell the producers of wool. To obtain that power they must open mines and build furnaces and mills, and when they shall do so we shall cease to hear of the appalling condition of Virginia agriculture, or of her declining power in the Union. If Virginia would improve her agriculture, she must make a market at home, and enable herself to restore to the soil the manure yielded by what she takes from the soil. If she would regain her position in the Union, she must open her mines and avail herself of her vast water-power; but these things she cannot do while she shall continue to be the chief supporter of that commercial centralization by aid of which Great Britain seeks to establish for the farmers and planters of the world the same system which now exists on the plantation, the labourer on which is deemed and held to be a slave, because he is allowed

BUT ONE MARKET IN WHICH TO BUY, AND ONE IN WHICH TO SELL.

ANTHRACITE COAL—PENNSYLVANIA AND RHODE ISLAND.

The anthracite coal of Pennsylvania has been for many years the chief dependence of all our large towns on the seaboard and our cities, for all sorts of uses, from that of the parlor grate to the hugest furnace. Were the supplies received from this source suddenly cut off, we should be, for a time, almost as helpless, in the matter of obtaining substitutes, as the veriest beggar in the street. And for aught we see, this dependence must continue substantially, for all future time.

Hitherto the demand for this article has increased nearly at an average rate of 50 per cent. in each five years. An article on this subject is published in the *R. R. Journal*, in which the following statement is made of the amount sold, from the regions named, and at the periods specified :

In 1820,	365 tons.	In 1840,	841,584 tons.
1825,	34,893 "	1845,	1,975,163 "
1830,	174,734 "	1851,	4,383,667 "
1835,	560,758 "		

The coal included in this table is from the Lehigh, Schuylkill, Lackawana, and the Susquehanna, and was conveyed to market by the Lehigh Canal, the Schuylkill Canal, the Reading Railroad, the Delaware and Hudson Canal, and by the Susquehanna River.

We have, however, a good prospect of finding a partial supply of this article, for certain purposes, at least, from Rhode Island. Efforts were made some years ago, in that State, to mine coal which had been discovered at Mansfield, but the enterprise was soon abandoned. Recently certain gentlemen have again taken up the subject, and their efforts meet with much more encouragement. The following is a short history of this business:

The old Aquidneck mine was first opened in 1808, and abandoned in two or three years as unprofitable, after an expenditure of some $200,000. The shaft then had a perpendicular depth of only seventy-five feet. Two years ago, another company renewed the working of this mine, and sank the shaft much deeper with "important and very satisfactory results." It is still in operation. The whole depth of the shaft is now 625 feet, making a perpendicular depth of about 275 feet. Two forty-horse engines are at work, and seventy-five to one hundred tons of coal are mined daily. It is a red ash variety, about equal in value to the Pennsylvania red ash. Dr. Hayes has tested it, and recommends it as "adapted to the production of steam and to smelting purposes generally." It is difficult to ignite, says Dr. Hayes, "but when kindled, and protected from cooling influences, it burns with great uniformity, dropping its ashes, without forming any clinkers."

2. *The Bristol Mine* is owned by a Boston company. It lies four miles North of the New-England or Aquidneck. The mine was recently discovered in sinking a well. A shaft has been sunk forty-five feet, and the work is said to promise well.

3. *The old Case, or Mount Hope Mine.*—This is on the east shore of the island, opposite the New-England, which is on the west, about one and a half miles distant. This was opened also in 1808, and some thousands more expended upon the works, which were afterwards abandoned. Recently, full examinations have been had, and three beds of coal have been opened. The old works have been extended about one hundred and fifty feet horizontally, and then a shaft run down about twenty feet, and seventy or eighty tons of

coal taken out, "much of it fit for use." Dr. C. T. Jackson has examined this and the other mines, as also Dr. Hayes, and both these gentlemen report that the mines are valuable, and "that reasonable profits may be derived from mining coal at this place."

For the Eastern market, and for forges and furnaces, and for mixture with the more expensive coal of Pennsylvania, if for no other uses, we should judge these mines must prove profiable both to their owners and consumers. It is sold at lower prices than the coal from Pennsylvania.

RENOVATION OF WORN-OUT LANDS.

THIS is a subject which is justly eliciting much attention in various portions of the country, and particularly at the South, where the continued system of "cropping" has exhausted even large districts, and which the proprietors have turned out as "waste lands," although, by proper attention and good management, much may be done effectually to reclaim and renovate and render them productive. In North Carolina and Eastern and Middle Virginia, large bodies of land may be found so reduced and exhausted by tobacco, and cotton, and oats, that it will no longer pay the cost of cultivation, and consequently is abandoned as useless. These lands, notwithstanding, possess a good share of fertility, and may by a moderate expenditure of labor, and a proper degree of attention to the principles of agriculture, be made productive, and the crop increased from 100 to 200 per cent., rendering the lands themselves truly valuable.

Waste lands at the South are always grown over with "broom straw." If this is in a green state, let it be turned under as deeply as possible with a plough of the largest size, which should be followed with a good subsoil plough, loosening the earth to the depth of eight inches further, completely covering the grass, and leaving it to rot beneath the porous soil. By this process, the stiff clay which nearly every where underlies the surface soil is rendered more open to the genial influences of the sun and air, and permits the escape of the surplus water in winter, and heavy rains in other seasons of the year. Should the grass be *dry*, instead of abounding in sap, it may be *burned* off, and the same process of ploughing, &c., performed as above described.

This being done, about the middle of June, or the first of July following, when the weeds are about half grown, and before their seeds are matured, sow the land broadcast with any of the numerous kinds of peas which are cultivated, excepting, perhaps, the small "black-eyed" variety, (which has too little vine,) at the rate of about a bushel to the acre. Turn these under with the plough to the depth of about three inches, and harrow both ways, first lengthwise and then across the furrows. It is better to soak the peas five or six hours and rub them in plaster before sowing. This will prepare them to get the start of the weeds and stimulate the future growth of the crop.

When the peas are beginning to ripen, let hogs into the field, to trample down and cut up the vines and better adapt them to being turned underneath the soil, after which the whole crop should be ploughed in, to the depth of five or six inches, leaving a complete "pea-ley" ready for a crop of wheat and clover, which should follow the former crop.

Sow the field thus prepared with a bushel and a half of wheat to the acre, and six to eight quarts of clover seed. Harrow these in very thoroughly,

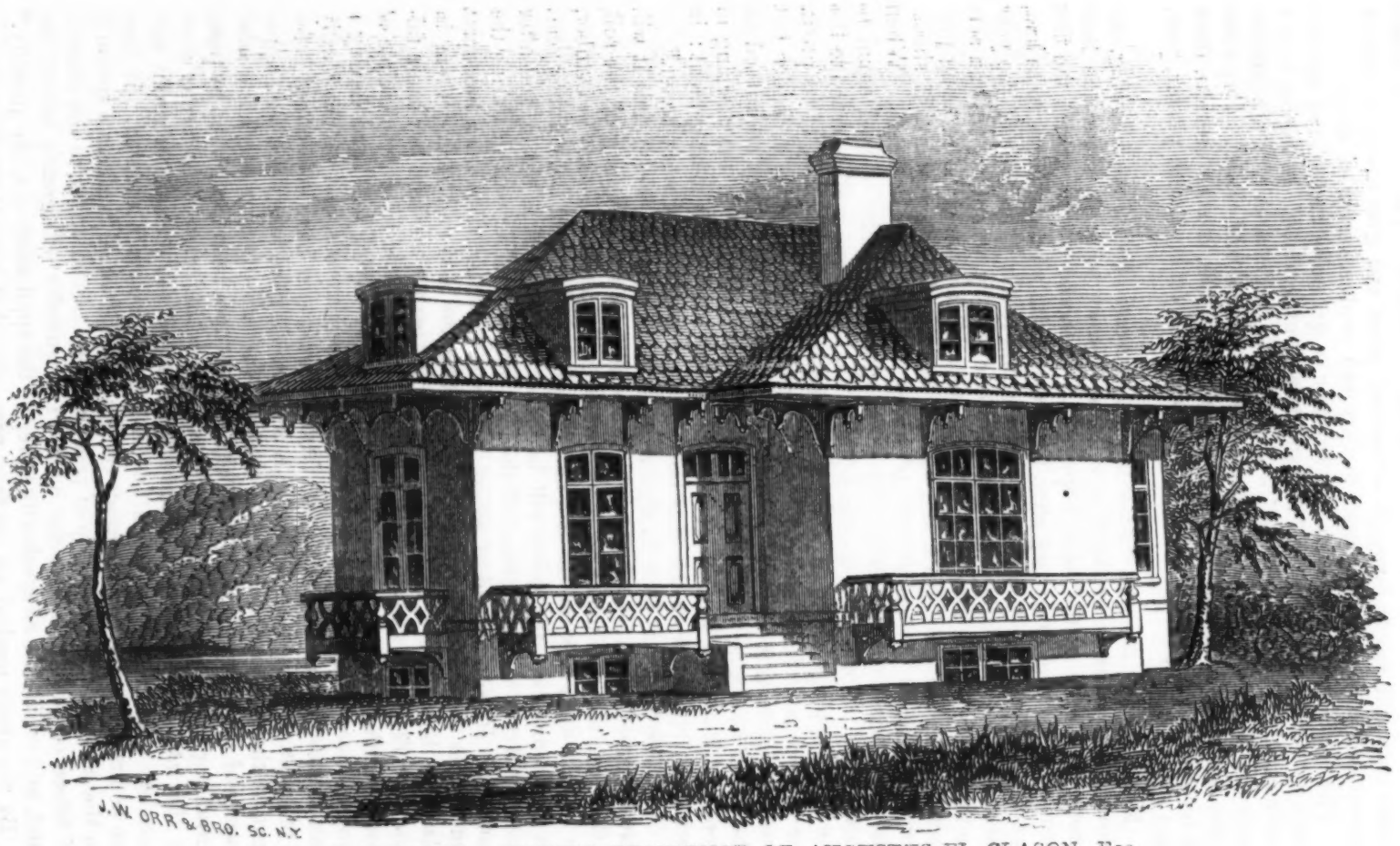
and let all this be finished by the middle of October. The result in nearly every case will amply repay all outlay and labor, and give the proprietor an abundant return in the increased fertility and productiveness of his lands.

The use of lime and clover as a fertilizer is generally known and appreciated by our agriculturists, and its benefits well understood. In regard to this method, Mr. H. K. Burgwynn, of Jackson, N. C., remarks: "I am familiar with the great increase of crops from the use of lime and clover. But when lime cannot be procured, as is the case in many of the interior districts, there is no application that can compare for a moment, on land, with plaster, peas, and deep tillage."

Mr. B. further remarks, "After the wheat comes off in June following, the clover, if sown early in October, will have grown so as to shade the land pretty well, even on the waste I speak of. It should not be grazed the first year at all: in the Frebruary after, top-dress it with all the manure to be had, not forgetting to apply all the *old ashes* within reach. This time of the year (winter) is best for applying manure in our country, where the hot sun acts so injuriously on the bare surface. The roots of the young clover being protected from the hard frosts and sudden changes by the manure, it shoots forward with the earliest warmth of spring, and smothers all weeds. When the weeds mature their seeds, they draw upon the fertility of land equal to most crops. Clover gives a crop equal to any other, and is all returned to the land in droppings of the stock while grazing upon it. As proof of its profit, for three years I have never fed my working horses on grain or fodder but once a day, from the middle of May till the clover fails. They are turned on the clover field after the day's work is over, and taken up in the morning in good condition for service. I have never lost one by this management: in fact, they improve from the time they are thus treated, and work better."

After the land has been in clover two summers, during which time it will have supplied three crops of leaves and stalks for the enriching of the soil, either turn the crop under for sowing wheat in September or early in October, or leave it until later in the fall, and plough it in for corn the ensuing year. In the former case, the clover will be found as abundant as before, and after the second crop of wheat comes off, the land may be used for pasture during the summer. If corn instead of wheat is grown, peas should be sown broadcast among the corn at the last ploughing, soaking the seed and rolling them in plaster as before. After the corn crop, do not permit the land to remain fallow or "lie out." It is a vital error, and one opposed to every principle of good farming to assume that land improves by "lying out," and having a crop of weeds mature upon it. The idea is preposterous, and we can hardly account for the fact that any good farmer should ever have entertained it for a moment. With due reflection this error would have long since been apparent, in the continued quantity of thousands of acres lying waste, *not a whit improved by "lying out."* "After the soil has once been brought up by peas, subsoiling, or deep ploughing and clover—all within reach of the farmer even in the interior—it will not again relapse, unless the former barbarous and senseless practice of exhaustion and negligence be again adopted. If lime can be had, even at a cost of twenty cents a bushel, I would in all cases spread it on the land, after the first crop of peas had been turned under, to the amount of fifteen or twenty bushels per acre. This quantity will greatly benefit the land, and enable the owner shortly to repeat the application of a like quantity."

By the above method we are fully persuaded that large tracts of land, now "waste" and useless, might be renovated and made productive and valuable to their owners.



MARINE COTTAGE.—SUMMER RESIDENCE OF AUGUSTUS W. CLASON, Esq.

COTTAGE DESIGNS.—No. VIII.

The present warm season, during which so many of our city friends are visiting temporarily the thronged hotels at New-Brighton, Long Branch, Newport, &c., &c., either for recreation or health, suggests to our mind the comforts and conveniences of private summer residences at the various beautiful and commanding sites which border the bays, rivers, and inlets of New-Jersey and Long Island, and stud the shores of the Sound, Staten Island, and other delightful locations of the vicinity, presenting inducements to all who have the means to erect tasteful and ornamental cottages, adapted to every domestic and rural comfort, and all the advantages of healthful recreation and real enjoyment. As a single specimen of a marine cottage of this description, we present our readers with a view of the summer residence of Augustus W. Clason, Esq., recently erected after one of Mr. Ranlett's* designs, at Clason's Point, Westchester. This point is about twelve miles from the city, and juts out into the Sound between two beautiful bays, commanding a very extensive prospect. The house is situated on a gentle eminence, rising gradually from the water, and affords one of the finest water views conceivable. The bay windows on the east command a view of the Sound to Whitestown; while on the south, the front catches, through trees, glimpses of the water; on the west, an old wood of oaks and elms partially hides the cottage; while on the north, a lovely village, with its irregular roofs and church spire at a few miles' distance, bounds the view of the observer. The creek near by, gradually narrowing from the bay, creeps slowly and sinuously through the meadows, dotted at intervals with tree-crowned hillocks, and at last loses itself amid their verdure. The grounds contain fifteen acres, of which about five are wooded with a very old growth, and the remainder are in grass. Walks are cut through the lawn, adorned with borders which are beautifully variegated with flowers and shrubbery.

This cottage combines many of the most desirable qualities of a summer residence, while it is sufficiently compact and well adapted to the exigencies of our climate in winter, if it should be desirable to occupy it during this season. It is of that character which meets the wants of the greater part of those who build houses in the suburbs of our cities, and is capable of being enlarged or reduced without destroying the harmony of its parts. The material used in this building is wood, but the style is well adapted either to brick or stone. The bold projection of the roof saves the necessity of a verandah, which, on a *small* house, has not a pleasing effect. As a convenient, pleasant and commodious dwelling for a moderately sized family, it is decidedly preferable to a large majority of houses constructed at nearly double the cost.

MANAGEMENT OF SOILS.

We find a short article bearing the above title in the *Cottage Gardener*. The suggestions which it contains are important. The writer says: "A soil would never get exhausted if managed with skill, but would continue to improve in depth and fertility in proportion to the industry bestowed upon it. The food of plants, it is true, may be exhausted from the soil by a repetition of cropping with any one family of plants, if we neglect the applica-

* Ranlitt's Architecture, 2 vols. quarto. Dewitt & Davenport, publishers.

tion of such fertilizers as may have been taken from the soil by that family; but no part of the growing season is required for the soil to rest, or be fallow, if judiciously managed by a successive varying of the crops, or by supplying to them such food as may be a compensation for what has been taken off by the previous crop. The first object to be attained for securing a certain and profitable return of produce from the soil must be *thorough drainage;* the next object is *breaking into the subsoil* to the desired depth—not without first considering whether it is proper and profitable to shift or turn up the subsoil at once to the influence of the atmosphere, or whether it be best to break into it well first, by shifting the surface soil and allowing the subsoil to remain and receive first the beneficial influence of the atmosphere, and then, at the trenching, a portion of the subsoil may be safely stirred up and mixed with the surface soil; this practice, continued for every succeeding crop, will establish a healthy, fertilizing surface soil to any desired depth.

By constantly scarifying, hoeing and forking the surface soil, not only obnoxious insects and their larvæ are expelled, but weeds would never make their appearance, much less have a chance of committing their accustomed robbery of the soil and crops. Besides, by such repeated stirring, the soil is always prepared for succeeding crops.

The application of manure is most essential, and may be applied most beneficially when the soil is established in a healthy condition, and maintained thus by a constant attention to surface stirring. Yet the application of manure is a secondary consideration; for though it may be very liberally applied, and with considerable expense, yet, without first insuring the healthiness of the soil, much property and labor will be sacrificed.

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

ENGLISH AGRICULTURE.

METHOD OF TREATING WHEAT AND OTHER GRAIN IN THE SPRING.

In the month of March, in England, a great deal of labor is bestowed upon the young plants of wheat. When the ground has become hard and bound, it is harrowed over by a light harrow, which, by loosening the soil, causes the roots to extend themselves. If the soil is light and porous, a roller is drawn over it which presses the loose soil around the roots of the plants. The hoe also is used to a great extent. This may appear strange to an American, but a great deal of the grain being put in by dibbling, it leaves room sufficient to use a narrow hoe without cutting out the rising plants. From four to five shillings per acre is paid for this work. At this same season barley and oats are committed to the ground. In sowing, the people of this country are apt to be too sparing in the quantity of seed, and nothing surprised the writer more than when he first heard of the scanty measure the farmers allowed here per acre for seed.

HARVESTING.

In harvesting grain, I never saw the cradle used, but always the scythe, except in the cutting of wheat, which is done by a sickle or reaping-hook. The first has teeth like a fine saw, while the latter has a smooth edge. A man is expected to cut by these instruments about half an acre, or something more, a day; he binds his sheaves as he proceeds, and sets them up in

shooks, where they remain until they become dry and hard, and fit to be carried into the barn or stacked. In carrying grain no rigging is used, but large wagons like those for the road, but lighter, which carry immense loads. The oats and barley are not bound in sheaves, left upon the swath to dry, then turned over, and when sufficiently cured, and the grain hardened, carried to the barn, or stacked in the yard. What renders the barley straw so valuable for fodder is, that there is always a great deal of young clover hay mixed with it, as this seed is almost invariably sown with this grain, to be mown or fed off in the following year.

The harvest month in England is one of the greatest diligence and hilarity. Every workman has double wages, labors extra hours, has allowed him per day so many pints of strong beer, and often as much small as he chooses to drink. Every body seems to be in good humor. The master is kind, and the man is contented and full of mirth. Often when a farmer fixes upon the day when he intends carrying his grain, tradesmen and others offer their services gratis, except being boarded, and think it a treat to turn from their more monotonous callings to enjoy the manly exercise of a day out-doors in the harvest season.

When a field of wheat is cleared, as the last load moves away, hundreds of gleaners rush into it, and are rapidly spread over it, picking up the loose ears of grain; which custom is as ancient, our readers will recollect, as the days of Ruth. A group of gleaners in England is, of all other assemblies, a fit subject upon which the philosopher may well moralize. Old men, widows, wives, young females and children make up the company. Mothers with their babes, little ones by the side of their parents, all in a hurry, scrambling, talking, bawling, running, and singing; and all are full of fun and glee. At such season, you would hardly suppose there could be such things as want and misery in the country. There are three seasons which, to the poor in England, are great blessings, as they insure them for a time a certainty of employment. These are the haying, the harvesting, and the hop-picking. This last closes the gatherings of the summer crops.

A hop garden, when the vines are covered with this fruit, is an enchanting spot, while the pleasant and refreshing odor which perfumes the air adds to the enjoyment. When the picking season commences, the company is divided into groups of about a dozen each, sitting around a large skip or basket, upon which the pole with the vine around it is laid across, and all hands are busy plucking off the hops amidst the jocund conversation, the merry laugh, and the wild song, which tend to pass off the hours of labor with cheerfulness.

The harvest ending, when a rich supper was formerly provided, used to be an evening of great festivity; but of late, that custom is becoming obsolete. Then, as the poet sang,

> "Here once a year distinction lowers its crest
> The master, servant, and the merry guest
> Are equal all."

At the close of the feast, the men generally go out, and in the stillness of the night, a few of them who have the strongest lungs place themselves in couples back to back, and halloo the word, *Largess*, which is heard for miles around; and this gives the community notice that they may expect to be waited upon to bestow their annual present to these hardy sons of

the soil, who have gathered in the bounty of a kind and beneficent Providence.

INFLUENCE OF RURAL POETRY.

The writings of several of the British poets have contributed not a little to elevate the science of agriculture, as well as to interest the community in its pursuits. Among them we might mention Bloomfield, Thomson, and Cowper, the reading of whose works throws great light upon the climate, the seasons, and the manners of the rural population. Bloomfield was but a poor farmer's boy, who felt his muse inspired by the scenes of the country, while plodding about the fields in his teens. Thomson's writings are of a superior order, but highly descriptive, while Cowper's strains are of a more serious turn; but he is a great admirer of nature, and paints the various changes of the year with the hand of a master.

When Augustus Cæsar became the master of the world, the plains of Italy had become neglected owing to the long civil wars, and agriculture was at a very low ebb. Virgil was requested to write something that should be an incentive to improve the farming interest. He then penned the Georgics, in four books, treating of agriculture in all its branches, including the varied produce of the soil, cattle, vegetables, trees, and bees. The appearance of this work gave an extraordinary impetus to husbandry, and Italy soon became a garden long celebrated for its richness of soil and exuberance of produce.

TURNIPS—STUBBLE—WEEDS.

During the harvest weeks in England, the hoeing of turnips is a species of labor which has then to be performed. These plants are always hoed twice; and in looking over the country at this season of the year, the numerous fields of these green vegetables make a beautiful contrast with the other portions of standing corn, arable land, and fields that have been cleaned of the grain.

The haulm, or stubble, left after the wheat is reaped, is often mowed afterwards, or if left until the winter, is raked off as it becomes tender enough to be broken and collected together then by that instrument, to be thrown down in the yard for manure; sometimes it is ploughed in when a fall crop is put into the ground, when it aids in some degree to mend the soil.

The Oxeyed Daisy, *chrysanthemum leucanthemum*, which has become such a pest here, is an evil I never heard complained of in England. I think here it is too often mixed with the timothy seed, to which it has some resemblance, and is sown with it. But we have there the charlock, bearing a blossom something like the wild mustard. This plant often appears among the growing oats and barley, rising above them, and covering the whole crop beneath them with a flood of yellow blossoms. This plant is checked in its growth by taking a scythe and cutting off the tops with the flowers, without injury to the rising grain.

PLOUGHS AND HARROWS.

There are two sorts of ploughs used in the mother country: the one rests upon wheels, and these were used very extensively, but are now, I believe, giving place to the common plough without wheels. Where sod ground is turned over, a small wheel with a sharp edge is put where the coulter is usually fixed, and this by its motion cuts the grass and weeds beautifully, and thus enables the ploughman to lay his furrows neatly. The harrow

generally consists of four or six light wooden frames, with iron teeth, coupled together by chains, so that you may use any number, or the whole of them at a time. The heavy crab harrow is never wanted at seed-time, but is merely kept for rough lands to break the clods. Stones there are not allowed to be left upon the land, as with us, as the surplus hands are often employed to pick them off, when they are bought by the overseer of the roads to mend the same.

HEDGES.

The subject of fences is one of great interest in this country, particularly where timber is becoming less abundant. Wire fences are used by some farmers, but they need to be heightened, and the posts to be rectified every spring. The wire I have seen used is not so large and stiff as it should be. I do not think this article will ever come into general use for fencing.

The same method was formerly adopted in England as is now, I believe, practised in some isolated parts, viz., the post and rail. How long since the white thorn, *crategus oxyacantha*, has been introduced into the mother country I know not. I am disposed to think it is not natural to the soil, as we do not often find it except where it has been planted. It is there plentifully and easily raised from the seed, which is a red berry about the size of a pea.

One method of propagation is by collecting the seed when ripe, and putting any quantity into a hole in the ground as are peach stones. In the spring, when vegetation will have commenced, they are sown in drills, and in the following year they are fit to plant for hedge-rows.

In setting a new hedge, a ditch or trench is always an appendage, and this is the first thing to be done. It is sunk about four or five feet in depth, and perhaps about the same width at the top, but becoming narrower as you descend. The earth thrown out from this ditch forms the bank by its side, which, of course, rises about as high as the trench is deep. The young thorns are not planted perpendicularly upon the top of the bank, but laid horizontally upon the bank, about six inches apart, when this is about one foot high; and the rest of the mould coming from the ditch is then thrown upon it, leaving the ends of the thorn just projecting out from the bank. As the spring advances, they soon bud and throw their shoots upwards. When this is completed, what is termed a dead hedge, which consists of bushes cut from some other overgrown fence, is put upon the top of the bank and secured by short stakes. This preserves the young thorn while growing, and prevents cattle from leaping over until the growing plants rise high enough to form of itself a fence of sufficient strength and height.

When these hedges are of a certain growth they are cut off, and the bushes are of essential use for mending other fences. They are always a marketable article, and are used frequently for heating ovens. I have never known this thorn injured either by a severe winter or a hot summer. It appears to be a hardy perennial, suited to almost any climate, and is certainly a desirable fence. It improves by age, as the oftener it is cut the thicker it shoots out, and forms a fence yet more impervious to cattle. It is usual to plant young trees, such as the oak, elm, and maple, among these young thorns, which, as they rear their heads, increase the value of the property, and add greatly to the beauty of English rural scenery.

CLIMATE.

The climate of the mother country is foolishly thought to be one of continual wetness, a foggy atmosphere, and dark dismal days. An American

happens to arrive in London on a wet hazy day, and, from prejudice and report, goes off with the idea that such is the usual weather. In New-York I have seen gas burning all day in many of the stores, and have witnessed fogs as dense here as ever I have witnessed across the Atlantic. A Frenchman having crossed the straits of Dover, and spent a few days in the country when the weather happened to be exceedingly fine, succeeded by a thunderstorm, and then followed by a cloudy cool atmosphere, goes back to Paris and reports that the English summer consists of three fine days and a hurricane; and the wiseacres believe him because he has been there.

That there is a greater proportion of rain in the British islands than upon the Continent, is the natural result of their being surrounded by the sea; but I have witnessed as fine seed-times and harvests there as I have ever seen here, and the complaints of late springs and wet summers are made about upon the same ratio in these Northern States as in the mother country. Travellers in a foreign country are too apt to be led astray by first impressions and hasty conclusions, often riding almost post-haste upon a tour, and then giving the results of their observations as a true account of the appearance and condition of the country. But if, instead of such a hasty visit, they were to reside there a few years, study the society more closely, get rid of preconceived prejudices, and let the excitement of novelties pass off, they would be far better able to give a correct account of the land whose history, climate, and manners they profess to describe. AGRICOLA.

Madison, N. J., July 5th, 1852.

SILEX AND FELDSPAR.

IN an article on soils, to be found in our pages for this month, we have described one of these minerals; but our readers will be interested in a more extended account from the pen of Mr. Holbrook, of the *New-England Farmer*. He says: "Rocks are the oxides of metals. Silex, the most abundant ingredient in rocks, mountains, and soils, is the oxide of silicum. This oxide constitutes nearly one half of the solid matter of our globe. It is the principal element of quartz, in all its varieties, which are exceedingly numerous, and some of them very beautiful. Quartz is the only mineral found every where. Sand is pulverized quartz. Pepples are fragments of quartz rounded by attrition. Gun-flint is quartz breaking with a conchoidal (shell-like) fracture. Amethyst is purple quartz, frequently found in six-sided crystals, which is the common shape of quartz crystal in its different varieties. Agate is clouded quartz in numerous varieties, some of which are much used for watch-seals, finger-rings, breast-pins, and other ornaments. Cornelian is quartz of a fine texture and of a yellowish red color. Chalcedony, bloodstone, catseye, and many other gems, are varieties of quartz.

Most, perhaps all the gems used in the breastplate of Aaron the high priest were quartz of different textures, colors and hues. The precious stones presented by the Queen of Sheba to the King of Israel were probably quartz. The stones mentioned in the Book of Revelations as forming the streets of New Jerusalem, with all the gems referred to, were but varieties of the stones used for paving our streets, and of the earth moved by the plough and the hoe of the farmer, and of the dirt carted for filling our docks.

The coloring matter giving most of the beautiful hues to gems, and an

endless variety of colors to quartz, is the oxide of iron. The oxide of silicum and the oxide of iron are hence united in this same most abundant mineral in the world.

Next to quartz, feldspar, or clay formed by the decomposition of feldspar, is the most abundant element of soils. This, too, is composed of several oxides of metals in chemical combination. Feldspar is also very extensively united with quartz in the formation of rocks, not by chemical combination, but mechanical mixture. The feldspar and quartz can be separated by the hammer. Not so with the oxygen and silicum, forming silex. Chemical agency alone can separate chemical combinations. Such combinations in rocks, soils, and other mineral bodies, are exceedingly numerous, complicated, and delicate. The most common stone that meets the eye in any part of the world is composed of two oxides. The oxygen and the metals are each united by chemical affinity, and then the two oxides are again combined by the same agency to form a "*common stone*," evidently worthy of more respect than it *commonly* receives.

FRUIT CULTURE IN THE SOUTH

A WRITER in the *Alabama Planter* thus expresses himself on this subject, and we believe his views correct. We see not why the South should not export apples and pears, and other fruits, at a great profit. Difference of climate and soil would modify the peculiarities of many species, perhaps, but some inferior kinds might thereby become excellent fruit. The writer says:

"A few years ago the successful culture of all fruits generally termed *northern*, such as pears, apples, plums, &c., was deemed impossible here. This false opinion is fast giving way, but the idea is gaining ground that we must discard all northern varieties and confine ourselves to southern ones entirely. This view I deem incorrect, and will as briefly as I can give mine and my reasons.

It is a well-known fact that certain varieties of pears, apples, &c., prove of first-rate quality only in particular localities. Others, however, succeed equally well in various soils and climates. Thus the Mela Carle, the best apple of Italy, and the Calville, celebrated in France, do not hold a high rank in this country. The Esopus Spitzenberg is better in the Middle than in the New-England States. On the other hand, the Gravenstein from Germany, and the red Astrachan from Sweden, have proven excellent in this country wherever tried. It is not pretended that all the varieties which are considered excellent at the North would prove so at the South; but I am confident that many of the best will succeed with us, and even that some will prove of the first quality here which hold but the second rank farther north.

The ill success which has heretofore attended the cultivation of fruit trees here has arisen not from our soil and climate, nor from cultivating northern varieties, but from the planting of *northern-raised* trees.

Three years ago I set out a number of trees of northern growth—apples, peaches, and apricots. The latter all did well. Of fifty peach trees, *one* grew moderately well, and last year bore fruit. Some fifteen or twenty lingered until now, and a portion of them begin to show a little vigor, but will never make good trees. Of a dozen apple trees, seven survived. One made

scarcely any growth of wood, but formed fruit buds. Year before last it bore two magnificent apples; last year six, of which I got one, and that one not quite ripe; the rest were stolen. That one, though immature, proved of excellent flavor. This year it will probably bear more. Four lingered until last year, when they made a pretty fair growth of wood and may thrive well yet, though they will never make fair trees. No. 6 stands as when set out, three years older in age and a dozen in hard looks. No. 7 was about six feet high when planted; it is about two feet high now—the body having died; but a small shoot remains, which grew out from the base of the trunk. Thus much for northern-raised trees.

Per contra: In the fall and winter of 1820 I purchased of Mr. Robert Harwell a number of fruit trees raised by him—pear, apple, apricot, plum, peach, nectarine, almond, and cherry trees. Most of the apple and peach trees were northern varieties, a few southern. The other fruits all northern. Of the whole lot I lost very few indeed: most of them did very well. The thriftiest trees among the apples are northern sorts. Among the peaches the northern do as well as the natives. Such is my experience so far, and such doubtless is the experience of all who have tried trees of northern and southern propagation.

NUTRITION—FAT AND TISSUE-MAKING FOOD.

Much is written on the subject of nutrition, and few subjects are more worthy of general attention. But the truth uttered on this topic is sometimes not appreciated, and the idea conveyed to the mind of the reader is even substantially erroneous. This is owing, in our opinion, to the fact that, very often, no distinction is made between the two kinds of necessary food, *muscle-making* and *fat* or *heat-producing* food. We have seen many tables showing the quantity of "nourishment" in various grains, vegetables, &c., in which a large portion of the substances named consisted entirely of the latter kind; and in a table now before us, from Mr. Johnston, is a list of cultivated crops, with figures specifying the "nutritive matter of different kinds," &c., with one column for gluten, another for starch, another for oil or fat, &c., while gluten is the only one of all these that can produce, unaided, a particle of organized flesh. Another essay which we have lately seen denominates the "gluten" as the source of *all* the nourishment in corn, grains, &c. Whatever of truth there is in these various and conflicting statements—and there is a sense in which they all are true—that truth leads to error from its want of exactness in the use of terms.

It would not become us to object to the use of technical terms by such high authority as we have just named, but we could wish that we had some short and convenient word to distinguish that food which contains nutriment for the living tissue from that whose only or chief object it is to make fat.

The facts which form the basis of this branch of physiology are well established, and, so far as we are aware, are not controverted. These are as follows:

The living organism of all animals consists of at least four elements: carbon, oxygen, hydrogen, and nitrogen. All these must be combined, in order to form a single particle of organic matter.

"Animal life," activity, or action, one or the other, or all of these, consume

this organized matter. With every motion of the body, or of its limbs or organs, waste is produced. That waste must be supplied. No food, of course, can answer this demand, unless it contains a due amount of all the wasted elements; or in other words, none can supply the waste of a muscle, unless it contain nitrogen. And yet a considerable part of our vegetable food contains no trace of this element.

The inquiry then presents itself, of what service is this carbonaceous food, that is, food abounding in carbon, but containing no nitrogen?

Besides these tissues, or organisms, there are fats, both liquid, semi-liquid, and solid. The former serve for softening all the living tissues, and for lubricating the joints. The solid fat is deposited in various parts of the body, and sometimes serves the purpose of a pillow for the living organs. Fat is no part of the living organism. It has no life, no sensation. If access could be had to it, it might be cut, or torn, or scraped out, without any pain to the subject, so long as the process was exclusively confined to this deposit. It is a mere deposit. Its whole office, so far as it is known, is comprised in the description of it already given.

It may be a curious discovery to some of our readers, that human fat and hog's lard are almost identical. Liebig gives the following analysis of these two substances:

	Human Fat.	Hog's Lard.
Carbon,	79.000	79.098
Hydrogen,	11.416	11.146
Oxygen,	9.584	9.756

It is also true that there is nearly as close a resemblance between all corresponding organisms of the various species of living animals.

While all living animal tissues contain nitrogen, many plants are entirely destitute of this element. This is one of the distinctive differences of animal and vegetable organisms. In the former, nitrogen is always present; in the atter, it is often absent. Hence, to sustain the former, food rich in nitrogen is important, while many vegetables require none.

We cannot understand our friend of the *New-England Farmer*, therefore, when he says, in consecutive sentences, "Carbonic acid and water are the chief sources of growth. Nitrogen is the principal element constituting the nutritive quality," inasmuch as this assertion is applied to "vegetables." His title is, "Source of the Nutritious Property of *Vegetables*." The fact is, that a very large proportion of vegetables contain no nitrogen. If the writer referred to means, by "nutritive quality," their power to *nourish animals*, we admit his accuracy. But there is here no allusion to animals, by name or by implication, in any other phrase in the paragraph; and as he elsewhere speaks of the ammonia of the air (which supplies the nitrogen) being "sufficient for their existence," that is, for the existence of vegetables, we think he has been very unfortunate in his language, if he does not intend to represent the case in a light varying essentially from that in which it is generally regarded.

The presence or absence of nitrogen, then, is the basis on which the various kinds of food are arranged either as flesh-making or fat-producing. Corn, the grains, peas, beans, meats, &c., contain much nitrogen, and, therefore, will form muscle. Sugar, starch, butter, many fruits, &c., are fat and heat-producing food. So of various crops fed to animals. Some abound in sugar or starch, and hence are good for fattening, while they would be very insufficient food for a growing animal, in which the muscle is to be essentially developed and increased. The carbonized food will secure a round, plump form; the azotized

food (*azote* being the old name for nitrogen) will allow it to grow and increase, while it may or may not produce either the reality or the appearance of fat.

Fat-producing food, then, is food producing *animal heat.* The fat serves as a reservoir of fuel with which to keep the body warm. This seems to be, par eminence, its service. All other uses yield to this. Hence its combustion in the system is essential, and hence, too, in cold weather, it is impossible, almost, to fatten any animal; all the elements of the fat are consumed, at once, to keep the animal warm. Thus, too, it is, that an animal in good condition will endure the cold better than one in "thin flesh," which means often, one having but a limited deposit of fat. In the latter, this fuel is less abundant, and the combustion necessary for the preservation of life is a tax upon the living tissue.

Lord Ducie* performed some experiments highly illustrative of these principles, and which also indicated what might be expected from their application to the practice of grazing. 1*st Experiment.* Five sheep were fed in the open air between the 21st Nov. and the 1st Dec.; they consumed 90 lbs. of food per day, the temperature of the atmosphere being about 44 deg. At the end of this time they weighed 2 lbs. less than when first exposed. 2*d Experiment.* Five sheep were placed under a shed and allowed to run about, at a temperature of 49 degrees; they consumed, at first, 82 lbs. of food per day, then 70 lbs., and at the end of the time had increased in weight 23 lbs. 3*d Experiment.* Five sheep were placed in the same shed as in the last experiment, but not allowed to take any exercise; they ate at first 64 lbs. of food per day, then 58 lbs., and increased in weight 30 lbs. 4*th Experiment.* Five sheep were kept quiet and covered, and in the dark; they ate 35 lbs. a day, and were increased 8 lbs. These experiments prove very satisfactorily the influence of warmth and motion on the fattening of cattle.

Thus, also, when from sickness, or otherwise, we are unable to eat, life is sustained, first, by consuming the fat; then the muscles yield themselves up to this demand of nature, or rather of vitality, and they too waste away.

These principles being well established, it is not difficult for our readers to classify the various growths of the field and of the stall, for themselves and for their animals, if they will but turn to some analytic table which gives the elements of those growths. The more carbon food contains, the greater are its fattening qualities. The greater the supply of nitrogen, the better is it adapted to the growth of young animals, or to give increased muscular strength to the animal of maturer years, which is employed in labor.

This distinction should be observed with regard to all kinds of domestic animals. Thus, young chickens, which need to grow, should be fed with grains, in some form. Those which are already grown, and need to be fattened, should be fed with food rich in starch.

Hot-House.—Admit air freely during every mild day, but exclude gradually towards evening. Stir bark beds occasionally, and water and ventilate freely. Thin grapes, and keep up heat as required; give liquid manure and syringe; shade in very hot days. Attend to propagation by seeds, suckers, layers, and offsets; fumigate with tobacco occasionally; mulch around the roots of vines, and stop the laterals; apply water in the morning early, and in greater quantities than in the preceding months.

AGRICULTURE IN VIRGINIA.

We have elsewhere alluded to the excellent address of the newly elected President of the State Society, and have marked portions of it for our columns. He first makes a comparison as to the amount of labor, the value of agricultural implements, live stock, &c. He says: "At the head of these Southern States, in production, in extent of territory, in climate, in soil, and in population, stands the Commonwealth of Virginia. She is a nation of farmers. Eight tenths of her industry is expended upon the soil; but less than one third of her domain is in pasturage, or under the plough. Out of somewhat more than thirty-nine millions of acres, she tills but little over ten millions of acres, or about twenty-six and a quarter per cent., whilst New-York has subdued about forty-one per cent., or twelve and a quarter out of her twenty-nine and a half millions of acres; and Massachusetts, with her sterile soil and inhospitable climate, has reclaimed from the forest, the quarry, and the marsh, about forty-two and a half per cent., or two and one eighth out of her little territory of five millions of acres. Yet, according to the census of 1840, only six tenths of the labor of New-York, and four tenths of that of Massachusetts, or relatively, one fifth and two fifths less than our own, is expended upon agriculture.

The agricultural implements and machinery of Virginia are worth but sixty-nine cents for every arable acre; in New-York they are worth one dollar and eighty cents; and in Massachusetts one dollar and forty-nine cents for every arable acre; but as, in those States, the breadth of mowing and pasture lands is much greater than with us, the difference in value of agricultural implements, to every acre tilled, is still greater against us.

The live stock of Virginia are worth only three dollars and thirty-one cents for every arable acre; but in New-York they are worth six dollars and seven cents, and in Massachusetts four dollars and fifty-two cents.

The proportion of hay to the same quantity of land is, for Virginia, eighty-one pounds; for New-York, six hundred and seventy-nine pounds; for Massachusetts, six hundred and eighty-four pounds."

He then speaks thus of manures. We wish that every farmer in the United States would hear him. But while there is a difference in different States, in the amount of manure applied to the soil, as there is with individuals of the same State, no State and but few individuals are at all just to their own interest in this respect. But hear the orator:

"Judging from the history of agriculture in all other countries, we may safely say, that farming can never attain to continued perfection where manure is not put on with an unsparing hand. By far the larger part of this can only be made by stock, which should at the same time be made the source of profit, at least sufficient to pay the cost of their keep; so that, *other things being equal*, it is a safe rule to estimate the condition of a farming district by the amount of live stock it may possess, and the provision made for their sustenance. Applied in this instance, we see that the New-York farmer has invested in live stock two dollars and seventy-six cents, and the Massachusetts farmer one dollar and twenty-one cents per acre more than the Virginian farmer. In pasturage we cannot tell the difference. But in hay, New-York has five hundred and ninety-eight pounds, and Massachusetts six hundred and three pounds more per acre than we have. And we shall appreciate still more highly the skill of the Northern farmer, if we reflect that a

readier market for every, the most trivial product of his farm, operates as a consistent temptation to break up his rotation and diminish his stock."

The following is a most powerful statement of what is essentially true of many portions both of the South and the North:

"Two courses are before you—either to neglect the new duties which claim performance at your hands, thereby to sink below the depths of party spirit into the foul abyss of partisanship, and see yourselves degraded to a nation of tools and dupes; to surrender the whole direction of public affairs to those who make a trade of politics and pander to the worst passions of the people whom they corrupt and abuse and betray—either this, or to take that control which rightly belongs to you, the natural rulers of the State and representatives of its conservatism, to foster public spirit and private enterpise, to instruct, enlighten, defend, and provide for the people, to give a right direction to the public mind, and to protect it from that bondage which the demagogue would impose, and which is riveted by an uninformed and selfish and narrow spirit. These are the alternatives: choose ye between the two! You must conquer by action, or submit by inaction! Why not conquer? It is not difficult. Men instinctively worship law and order, because it is necessary to self-preservation. The true strength and excellence of government never did lie, God forbid it ever shall lie, in mere numbers. Moral influences control its operations, as certainly as gravity controls our steps. But unlike gravity, these influences are inert and require to be put in motion. It were invidious to particularize, but we may point in general terms to States north and west of us, in which, as one or the other of these alternatives predominates, we see steadiness, loyalty and virtue, or the germs of restlessness, anarchy, grossness, and debasement.

But how shall this provision be made? By agricultural improvement, in the first place; by so developing the resources of the State as to keep all our citizens at work. By this means, we have every confidence that in a few years we shall regain the ground we have lost, and go as far ahead of other States as they are now ahead of us. This is no idle boast. In spite of the comparative bad management which we have proved to prevail in Virginia, it appears from the census of 1840 that the total value of agricultural produce, including, of course, what was consumed on the farm and otherwise applied to agricultural uses, was in round numbers, in Virginia, New-York, and Massachusetts, fifty-eight, one hundred and eight, and nine and a half millions of dollars respectively; being to each person employed in agriculture in these States, $186.60, $240, and $108; showing an excess in favor of Virginia over Massachusets of forty-two and a half per cent., and of New-York over Virginia of twenty-two and a half per cent.

Thus we find that in 1840 Massachusetts produced upwards of five millions of bushels of potatoes, or sixty bushels to each integer of her agricultural industry, whilst we made less than three millions of bushels, or 8.30. But of wheat and corn we made upwards of thirty-five millions of bushels, and Massachusetts a fraction under two millions. On the other hand we find, when compared with New-York, that we made of wheat $31.50, of corn $54 = $85.50 per hand; and she of wheat $27, of corn $15 = $42, or more than one hundred per cent. deficit. But in value of live stock and dairy products and hay, we made $102, $4, $8.30, respectively = $114.30; and she $121, $23, $61.70 = $205.70; or nearly one hundred per cent. excess. The excess of value of her oat and orchard crop, about offsets the value of our tobacco crop, and leaves the difference in favor of New-York mainly dependent on wool.

The last question we shall discuss, is that of the finances necessary to start

and sustain such a Society. We must have money. It has been decided to introduce a bill into the General Assembly asking for an appropriation of State money, conditioned on an equal individual contribution, and the enactment of such provisions as shall secure to the State Society the certain collection and full fruition of their funds. To those who object to the tax thus proposed to be laid, we beg leave simply to say, that there are 76,704 farms in Virginia, and that, should the whole tax amount to $10,000, a sum we cannot hope to realize, it would make just thirteen cents for each farm; if they quarrel with that amount, we reduce it forty per cent. for the independent appropriation of $4,000 already made, for the employment of an Agricultural Commissioner and Chemist, which leaves 7.8 cents. If this does not quiet their fears, we can tell them that about one half of it will be contributed by others than farmers."

MENSTRUATION IN MARES.

A LATE number of the *American Veterinary Journal* contains the following, written by C. H. Cleaveland, M.D., of Waterbury, Vt. We publish it in the hope not only of doing a good service by circulating valuable information, but also to save many noble animals from abuse:

"Probably all know that all mares of the proper age, and at certain seasons of the year, *menstruate*, or, in other words, have uneasy turns, get '*foolish*,' as they say in Illinois; and that, at such times, they seem unwilling to perform their usual task, either as travellers or as draught horses; that they seem fretful and often ill-tempered, vicious, spiteful, and frequently get a most thorough whipping, because their masters also get 'foolish.'

Now, the simple fact is, that the mare knows more than her master in regard to her then condition, and she is trying to drive into his *foolish* noddle that, on such days, she should be left quiet, and be subject to no labor beyond the most gentle exercise.

If the reason why this course should be pursued, in preference to the hard work and the whipping which *your* mare has had bestowed upon her at such times, is not now plain and satisfactory to you, most sapient reader, just inquire of any old matron within the circle of your acquaintance, and she will tell you that I am correct, but perhaps 'without a why or wherefore.'

The reproductive organs, in all animals, are intimately connected with the nervous system, and of course exert a vast influence over not only the nerves, but also the entire body, mind, and disposition; and when those organs are deranged or diseased, the entire animal economy must suffer, and be rendered in a greater or less degree unfitted to perform its usual labors. In the female these organs exercise a still more powerful influence upon the other parts of the system than in the male; and as they are liable to *periodical* derangements or excitements, it becomes obviously necessary to be strictly cautious not to tax the animal's powers of endurance at those periods.

Mares that have been ridden under the saddle, or driven in harness, during their periods of heat, and have performed no more than their usual amount of labor, are frequently discovered to be covered with perspiration across the loins, while all other parts of the surface are cool and dry; and the hostlers will say that they have been unable to rub those moist spots dry, even after the lapse of many hours; and the next day the mare is observed to drag her hind legs after her, almost as though her back were broken. Indeed, her

back *is* lame, weak, and painful. She urinates with difficulty, and there is evident inflammation of the kidneys, the ovaries, and the uterus.

From slight injuries of this class mares will readily recover; but if they are of too frequent repetition, or the injury be of too grave a character, the chances are, that the animal will be unable ever after to perform well, and will soon become nervous, irritable, and weak, and will be passed from jockey to jockey until she dies—a martyr not to her own '*foolishness*,' for her waywardnesses at those times are *wise* admonitions to her master, but to the folly of those who *will not* learn to understand nature, because 'they know all about their horses,' and do not wish to be instructed by any *book doctor*."

THE CHEESE TRADE OF THE UNITED STATES.

The *Cincinnati Price Current* gives a brief review of the cheese trade for the season of 1851–52, from which we derive the following statements. The monthly average price for good merchantable Western Reserve cheese in the months of each year, from 1848 to 1852, was as follows:—

	'48-9.	'49-50.	'50-1.	'51-2.		'48-9.	'49-50.	'50-1.	'51-2.
April ....cts.	8¼	6⅜	6½	6⅞	November	6½	5¾	6¼	6½
May.....	6½	6½	5¾	6¼	December	6½	6	6½	6½
June	6	6	6	6	January.....	6⅜	6½	6¾	6½
July.....	5¾	6	6	6¼	February.....	6	6⅜	7	6¾
August	5¾	6⅜	6	6½	March	6½	7½	7½	7
September	5⅜	6¼	6	6½	Yearly av	6¼	6½	6⅛	6
October	6	6½	6	6½					

The amount of cheese produced by each State during the year ending June 30, 1850, was as follows:—

Maine ..... lbs.	2,201,195	Alabama .....lbs.	30,423
New-Hampshire	3,196,568	Mississippi	20,314
Vermont	6,755,006	Louisiana.....	1,148
Massachusetts	7,124,461	Texas.....	92,018
Rhode Island	296,748	Arkansas.....	28,440
Connecticut	4,513,019	Tennessee	179,577
New-York.....	49,785,905	Kentucky	228,744
New-Jersey.....	500,819	Michigan	1,042,551
Pennsylvania.....	2,395,279	Ohio	21,350,478
Delaware.....	3,187	Indiana	666,986
Maryland.....	3,925	Illinois	1,283,858
District of Columbia.....	none	Missouri.....	201,597
Virginia.....	434,850	Iowa	198,444
North Carolina	95,043	Wisconsin	440,961
South Carolina	4,810		
Florida	18,324	Total	25,765,539
Georgia	46,391		
Total	77,375,527		

Thus, it is seen, the States containing a population of about twelve millions produce over seventy-seven million pounds of cheese annually, while the Western and Southern States, with a free population of eight millions, produce only twenty-five million pounds. Of the former, New-York produces forty-nine million, and of the latter, Ohio produces twenty-one million. The Southern States produce a very small quantity in proportion to their population.

FLOWER CULTURE.

Some of our readers may remember the advice of Mr. Downing, given to some female friend, which we published in a late number, recommending it to her not to rely too much on *annuals*. The advice appears sensible. There are numerous perplexities connected with the growth of annual plants which we may easily avoid by giving our time and labor to other species.

Sometimes our seed is misnamed; sometimes it is barren, though this, in most cases, is the result of mistreatment in planting; and mishaps may occur in the early growth of the young plant. Considering these circumstances, and the greater amount of labor required for the successful growth of annuals, it may be admitted that the prudent wife or daughter who has but little time to devote to a garden, should obtain a liberal supply of more enduring plants.

We give below some advice, taken from *Buist's Flower Garden Directory*, of the proper manner of cultivating that prince among all the flower families of the world capable of enduring our climate unprotected,

THE CARNATION AND PINKS.

In order to make the former flower well, if the weather is dry, give them frequent waterings at the root, and tie them up neatly to the rods. *The criterion of a fine Carnation is:*—The stem strong and straight, from thirty to forty inches high, the corolla three inches in diameter, consisting of large, round, well-formed petals, but not so many as to crowd it, nor so few as to make it appear thin or empty; the outside petals should rise above the calyx about half an inch, and then turn off in a horizontal direction, to support the interior petals, they forming nearly a hemispherical corolla. The interior petals should decline in size towards the centre, regularly disposed on every side; they should have a small degree of concavity at the lamina or broad end, the edges perfectly entire. The calyx above one inch in length, with strong, broad points, in a close and circular body. The colors must be perfectly distinct, disposed in regular long stripes, broadest at the edge of the lamina, and gradually becoming narrower as they approach the unguis or base of the petal, there terminating in a fine point. Those that contain two colors upon a white ground are esteemed the finest.

The criterion of a Double Pink:—The stem about twelve inches, the calyx smaller but similar to a carnation; the flower two inches and a half in diameter; petal rose edges; color white and pure purple, or rich crimson; the nearer it approaches to black the more it is esteemed; proportions equal as in carnation. Those that are very tasteful in these flowers are attentive to the manner of their opening. When the calyx is deficient in regular expansion to display the petals, that is, where there is a tendency to burst open on one side more than the other, the opposite side in two or three different indentations should be slit a little at several times with the point of a small sharp knife, taking care not to cut the petals, and about the centre of the calyx tie a thread three or four times around to prevent any further irregularity. Some florists and connoisseurs place cards on them. This is done when the calyx is small. Take a piece of thin pasteboard about the size of a dollar, cut a small aperture in its centre to admit the bud to pass through. When on, tie it tight to the rod, to prevent the wind from blowing it about, and when the flower is expanded, draw up the card to about the middle of the calyx and

spread the petals one over the other regularly upon it. When these plants are in flower, their beauty may be prolonged by giving them a little shade from the mid-day sun by an awning of a very simple description. When they are in pots, they can be removed to a cool, shady situation, but not directly under trees.

Of Laying Carnations and Pinks.—This is a necessary and yearly operation to keep a supply of plants, and likewise to have them always in perfection. As the process of laying, though simple, may not be known to all who are desirous of cultivating these plants, we will give an outline of the mode of operation. Provide first a quantity of small hooked twigs (pieces of *asparagus* stems are very suitable) about three inches long, for pegging the layers down in the earth. Select the outward, strongest and lowest shoots that are around the plant; trim off a few of the under-leaves, and shorten the top ones even with a knife, and then, applying it at a joint about the middle of the under side of the shoot, cut about half through in a slanting direction, making an upward slit toward the next joint, near an inch in extent; and, loosening the earth, make a small, oblong cavity one or two inches deep, putting a little fresh, light earth therein. Lay the stem part where the slit is made into the earth, keeping the cut part open, and the head of the layer upright one or two inches out of the earth, and in that position peg down the layer with one of the hooked twigs, and cover the inserted part, to the depth of one inch, with some of the fresh earth, pressing it gently down. In this manner proceed to lay all the proper shoots of each plant. Keep the earth a little full around the plant, to retain longer the water that may be applied. Give immediately a moderate watering with a rose watering-pot, and in dry weather give light watering every evening. Choose a cloudy day for the above operation. In about two months they will be well rooted.

ANALYSIS OF THE APPLE.

An interesting paper on the analysis of apples, by Dr. Salisbury, is found in the Transactions of the N. Y. Society, and furnishes some facts worthy of notice. Owing to the lateness of the season (in spring) before the analysis was commenced, the following sorts only were examined, viz.: Swaar, Kilham Hill, Rhode Island Greening, English Russet, Roxbury Russet, and Talman Sweeting. From the numerous tables of results the following facts are drawn:

The English Russet contains less water and more dry matter than many of the other sorts. This is doubtless the reason why this variety is so hard to freeze. The Talman Sweeting contains more, the Greening still more, and the Kilham Hill most of all; ranging in all these from 78 to 86 per cent. A fresh potato contains about as much water as the Russet. These results show the reason that apples, when manufactured into cider, produce nearly their own bulk of juice, a fact which has often puzzled many who merely regarded the solid nature of the fruit.

A striking difference in the composition of the apple and potato, is the entire absence of starch in the former, while in the latter it constitutes about one half of the solid part. The apple, according to this analysis, is rather superior to the potato in the fat-producing qualities, and which accords with

the experience of some accurate farmers. The apple contains about twice as much of the compounds of nitrogen as the potato.

The Russets were found to contain a larger portion of tannic and gallic acids than other sorts. These acids impart astringency, and are indicated by the black color given to a knife of iron or steel used in cutting this fruit. The apple is rich in phosphoric and sulphuric acids, and potash and soda. Hence we may infer that bone dust, ashes, salt, and plaster, would be likely to prove useful as portions of the manure applied to a bearing tree, in addition to what is already contained in yard manure.

GERMAN AGRICULTURE.

The account given by Mr. Howitt of German agriculture cannot fail to interest our readers. He says:

Each German has his house, his orchard, his roadside trees, so laden with fruit that if he did not carefully prop up and tie together, and in many places hold the boughs together with wooden clamps, they would be torn asunder by their own weight. He has his corn-plot, his plot of mangel-wurtzel, or a hay, for potatoes, for hemp, &c. He is his own master, and he, therefore, and every branch of his family, have the strongest motive for const t exertion. You see the effect of this in his industry and his economy.

In Germany nothing is lost. The produce of the trees and the cows is carried to market; much fruit is dried for winter use. You see it lying in the sun to dry. You see strings of them hanging from their chamber windows in the sun. The cows are kept up for the greater part of the year, and every green thing is collected for them. Every little nook where the grass grows, by roadside, and river, and brook, is carefully cut with the sickle, and carried home on the heads of the women and children in baskets, or tied in large cloths. Nothing of any kind that can possibly be made of any use is lost; weeds, nettles, nay, the very goose grass which covers waste places, is cut and taken for the cows. You see the little children standing in the streets of the villages, in the streams which generally run down them, busy washing these weeds before they are given to the cattle.

They carefully collect the leaves of the marsh grass, carefully cut their potato tops for them, and even if other things fail, gather green leaves from the woodlands. One cannot help thinking continually of the enormous waste of such things in England—of the vast quantities of grass on banks, by roadsides, in the openings of plantations, in lanes, in church-yards, where grass from year to year springs and dies, but which, if carefully cut, would maintain many thousand cows for the poor.

To pursue still further this subject of German economy. The very cuttings of the vines are dried and preserved for winter fodder. The tops and refuse of hemp serve as bedding for the cows; nay, even the rough stalks of the poppies, after the heads have been gathered for oil, are saved, and all these are converted into manure for the land. When these are not sufficient, the children are sent into the woods to gather moss, and all our readers familiar with Germany will remember to have seen them coming homeward with large bundles of this on their heads. In autumn, the falling leaves are gathered and stacked for the same purpose. The fir cones, which with us lie and rot in the woods, are carefnlly collected and sold for lighting fires.

In short, the economy and care of the German peasants is an example to

all Europe. They have for years, nay ages, been doing that, as regards agricultural management, to which the British public is but just now beginning to open its eyes. Time, also, is as carefully economized as every thing else. They are early risers, as may well be conceived, when the children, many of whom come from a considerable distance, are in school at six in the morning. As they tend their cattle or their swine, the knitting never ceases, and hence the quantities of stockings and other household things which they accumulate are astonishing.

FLAX COTTON—CLAUSSEN'S IMPROVEMENT.

THE very great and increasing interest in this valuable improvement in the preparation and manufacture of the flax fibre will, we doubt not, render a description of the process both acceptable and gratifying to the readers of the *Plough, the Loom, and the Anvil*, particularly as every discovery and improvement tending to the advancement of the manufacturing interest and the prosperity of the farmer cannot fail greatly to benefit the entire community. In regard to the certainty of the operation, and the great improvement effected in the manufacture, there can be no doubt; and we look forward to the time when the linen manufacture of this country shall become of very great importance to its wealth and prosperity.

The flax plant, as is well known, is composed of three distinct parts, the wood, the fibre, and the gum resin, which causes the fibres to adhere together. To remove the wood is the first object; and this, under the old system, was performed by a machine little better than a flail. Here commences the first improvement, which consists in boiling the material in a weak alkaline solution for about four hours, after which it is washed first in a slightly acidified liquor, and then in plain water. It is then dried, and in a fit state for the various processes of scutching, heckling, &c., necessary to render it fit for the linen manufacture. In order to "cottonize" the flax, according to M. Claussen's patent, "the fibres are taken from the washing vats direct to a series of other vats, ranged side by side; and it is in these that the magic of chemistry is so brought to bear as to transmute a heavy mass of dark, harsh straw, in the course of some minutes, to a light, silky, snow-white wool."

"In the first of these vats is a weak solution of carbonate of soda: here the previously boiled and washed fibres are steeped for about fifteen minutes, during which time they become completely saturated with the soda liquid. To explain the chemical action which follows, it is necessary to point out the structure of the flax fibre. These fibres, minute though they be, are cellular, and composed of a number of smaller cylinders, united closely at their side. It is the separation of these finer fibres, and the consequent addition to the length and surface of the whole mass, that has now to be accomplished; a process that may well be likened to hair splitting. These cellular fibres, being thoroughly saturated with the soda in most minute quantities, are removed from the first vat, and placed in vat number two, containing water slightly acidulated with one part in five hundred of sulphuric acid. The change which now takes place is instantaneous. A rapid frothing and ebullition of the liquor may be observed, and the heavy mass of flax which, in the first liquor, sank far below the surface, is now seen floating lightly on the surface of the water. It is no longer flax, it is British cotton. And how has this happened? The acid in this liquid, finding its way into the liquid cylinders already saturated with the soda, immediately effects a chemical change; the sulphuric acid com-

bines with the alkali, and forms sulphate of soda, giving out the carbonic acid gas from the carbonate of soda, which, seeking its liberation, expands and bursts open the cellular tubes. The cottonized flax is next placed in a weak solution of soda, in order to free it from any remaining acid, and thence transferred to the bleaching vat, which contains a mixture of solution of chloride of lime and sulphate of magnesia. Here it remains during two hours, at the end of which time it wears a perfectly snow-white appearance. The process is then completed by washing, first in a weak acid liquor, and afterward in pure water. It then only remains to dry the flax cotton, in order to fit it for the after processes, preparatory to spinning."

By the process above described the value of the flax fibre is not only greatly enhanced by being rendered capable of being spun at the low "cost of ordinary cotton goods, but the yield of marketable fibre is much increased, and at a much less cost of time and labor than was needed under the old method. The new fibre is so completely assimilated in character to cotton, that it readily receives the rich dyes imparted to the latter, and is, in short, capable of being printed or dyed in a precisely similar manner."

An intelligent writer, who has seen the process at the "Stepney Model Factory" in England, states that "the same method can be made available for converting the refuse tow from the flax establishments into a fine white article, admirably adapted for paper making, and at a less price than he pays for linen rags. The value of this latter preparation may be estimated when it is known that one manufacturer of linen in the north of Ireland throws aside 'refuse tow' to the yearly value of five thousand pounds sterling; all of which, at present, is utterly useless."

He further adds: "We examined specimens of flannel, felt, and woollen cloth manufactured of equal parts of British cotton and wool; also, a felt that was composed entirely of the former material. All of these goods had a remarkably stout feel, and appeared to be strong in their body.

"Combined with silk, 'cottonized' flax may be worked up with great ease on the existing silk machinery, and when so wrought, is capable of receiving the same colors in dyeing, and materially adding to the strength of the fabric manufactured.

"We saw two other substances, which, it appears, are quite as susceptible of being 'cottonized' as flax. One was a coarse species of China silk, at present of little value; the other was 'Jute,' or Indian hemp. Both of these fibres were materially improved in appearance and feel, and are, no doubt, in their new form, adapted to purposes for which they were not at all available previously."

This improvement in the manufacture of flax will offer strong inducements for our farmers to enter into its profitable cultivation. Estimates, based upon several years of actual experience in England, go to show that, by the flax culture, the farmer may realize a yearly profit of from fifteen to eighteen pounds per acre, and that, too, upon land which has just been heavily cropped in cereals. Many thousands of acres which hitherto have yielded but indifferent and uncertain crops, or which have scarcely been worth cultivation, may be brought under flax, without any fear of the result. Hitherto the absence of linen manufactures, and the consequent want of markets, in so many parts of England and Scotland, have proved a serious obstacle to any attempts at extending flax culture. But if every grower, by the purchase of an inexpensive and simply constructed machine which has been invented for the purpose, can convert the flax-straw into a fit condition for economical and convenient transport to a market, and now that conveyance is so much les-

sened in cost, it may be expected that a widely extended cultivation of this article may take place, affording active employment to a vast number of persons of all ages.

Hitherto the opinion has been prevalent to a great extent that flax crops were exceedingly exhaustive in their effect upon the soil. Experiments fairly carried out have shown this to be a fallacy. Chemical analysis of the plant, and a series of flax crops taken from the same land, have proved, beyond a doubt, that not only does this cultivation not weaken the soil, but tends to keep it in a state of great productiveness.

An examination of the structure of the plant demonstrates that those portions of it which absorb the alkalies and the nutritive properties of the soil are those which are not required for the purpose of manufacture; namely, the wooden part, the resinous matter, and the seed. The fibres derive their elements almost entirely from the atmosphere, one hundred parts containing not more than two parts of mineral matters. Under the old process of steeping, the nutritive portions contained in the wood and gum, as well as the whole of the seed, were lost in the fermentation during steeping; so that nothing whatever was restored to the land. By the new method, these properties are capable of being returned whence they were taken. The seed may be either employed in feeding cattle, or crushed for oil; the oil-cake being in that case returned to the cattle-yard.

For the greater convenience of the grower, the apparatus for removing the wood-fibre should be used on their farms, by which means they reduce the bulk by one half, and at the same time retain the portion most useful for manure. In this state it will be brought to market for sale to the manufacturers, who will then have only to free it, in the first instance, from the gum resin, previous to the process of preparation above described.

Already the patent has been taken in hand in Scotland; arrangements are in progress for a similar undertaking in Ireland; and, should the like activity be manifested in this country, there can be little doubt that two most important results will have been attained—the providing a great portion of our population with profitable employment, and rendering ourselves less dependent upon other countries for the supply of our linen fabrics.

A FACT FOR THE FRIENDS OF RECIPROCITY.

"By referring to the great volume of annual reports from the colonies laid before the Imperial Parliament, entitled "The Past and Present State of Her Majesty's Colonial Possessions," for 1851, now lying before me, I find that Canada imported from Great Britain, in 1850, goods to the value of £2,407,980; from the United States, £1,648,715. Now, any wholesale importer will tell you that the articles taken from Great Britain are chiefly manufactures, whilst those from the States are composed mostly of such things as Canada can neither produce nor make; such as sugar, tea, coffee, tobacco, and a long list of others of less importance. It must, therefore, be against the English manufacturer that you want protection, and not against the American."

The above, from the London correspondence of the Hamilton (Canada West) *Spectator*, is strongly confirmatory of the views we have endeavored

to impress upon our readers in relation to the so-called question of reciprocity with Canada. The fact mentioned by the writer shows the insignificance of our interest in the Canadian market as compared with the interest of the English manufacturers, and with the importance of the surrender which we are called upon to make. The thorough-going free-trader, who persists in a policy depressing to every branch of American industry for the enrichment of a foreign power, may with perfect consistency seek to carry a measure that would enlarge the area of competition, and tend more rapidly to destroy the small remainder of domestic trade. But we are at a loss to comprehend the philosophy of politicians generally sound on the protectionist question, who propose to make our commercial intercourse with Canada exceptional, for the supposed benefit of circumscribed localities.

The statement has another bearing. It reveals the error of those Canadians who, while seeking protection, limit their efforts to the exclusion of the lesser imports, while the greater are to be permitted to flow in as now. Canada needs protection as much as any section of the Union, but she needs it most of all against England.

VERMONT HORSES—THEIR BREED, &c.

A WRITER from Stowe, Vt., in an article on horses, in the *Albany Cultivator*, says:

The reason why so many good horses are generally sent to market from Vermont, is found in the fact that stallions are treated as common farm horses, except during the season for mares. Their muscular system is fully developed by work, not mere *exercise*, but hard work, during the fall and winter, and the spring finds them robust, hearty, and full of muscular power and vital energy.

In "Mason's Farrier and Stud Book," edited by Skinner, is a short essay "on the condition of a stallion," worth, *practically*, more than all the rest of the work. It concludes in these words: "Trainers find their endeavors to produce the highest state of strength in an animal greatly impeded by any excitement of the sexual appetite. It is then the more necessary to keep the horse in a state of training throughout the year, impressing most forcibly a tone of health and strength upon his system, at a time when his nerves are liable to the least distraction, never allowing such excess of service, or of the excitement of sexual appetite, as to induce a disturbance of spirit or temper, or a relapse from the most thoroughly strong, healthy, and regular tone of the system."

Such has been the course generally pursued with "Morgan" stallions; their docility and tractableness, caused by constant use, rendering them fit for ordinary labor, and more pleasant in the harness than most stallions. The *blood* of the Morgans at this time amounts to but little; strictly speaking, they are not entitled to a distinct family name. For, from Mexico to Maine, I can show you "Morgans" in form, size, color, and action, whose progenitors never saw Vermont; and if you will pay a visit with me some day to Queen Victoria's stables, I will show you there a stallion, *thorough-bred*, yet a "Morgan, every inch of him."

Some persons are inclined to believe that every thing of the horse kind in Vermont, of any value, is "Morgan." It is true that the Morgan name has great weight in some quarters, and is, I am ready to admit, entitled to a certain quantum of respect. But the old Morgan is not the only stone in the

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foundation. Within the past forty or fifty years, there have stood in Vermont, among other stock horses, a colt of imported "Magnum Bonum," a get of "Cock of the Rock," a get of "Hamiltonian," one of "Post Boy's" colts, one got by "American Eclipse," "Long's Henry," now living, and owned in the State, and several descendants of "Messenger," and other thorough-bred horses. These all have been more or less subjected to the same treatment, and have left stock worthy of their illustrious names.

It is from a promiscuous mingling of such strains of blood, amid the pure waters, the sweet pastures, and the salubrious atmosphere of Vermont, that she has been enabled to furnish so many good (not to say "Morgan") horses.

QUALITIES OF SOILS.

All soils may be arranged under four heads: 1. Silicious or sandy; 2. Argillaceous or clayey; 3. Calcareous or limy; and 4. Peaty.

Various subdivisions of these may be important, arising either from a combination of two or more of these, one or the other kind being in excess, or from a difference in the condition of the soil. Thus the silex of "silicious" soil may be in the form of sand, gravel, slate, (of certain kinds,) or of rocks.

Silex is composed of the metal *silicium*, in combination with oxygen. Pure flint is the most perfect form of silex ordinarily found. Sea sand abounds in silex. It has been considered insoluble in water, and soluble only in fluoric or phosphoric acid. Recent statements, however, by one of the most thorough chemists of the country, Dr. Chester Dewey, show that silex is sparingly soluble in water. When this mineral predominates in a soil, it is much exposed to drought. Silex in excess is unfavorable to vegetation, because it does not readily combine with manures, which filtrate through the subsoil, or are washed out by rains into the streams. But when not in excess, it is beneficial to the soil, rendering it lighter and more easily worked. A silicious soil may be easily recognized by mixing it with water: if the silex is considerably in excess, it will not form a paste.

Sandy soils are not adapted to the growth of the cereals, unless we except rye. Crops raised upon them come early to maturity, but sometimes at the expense of their quantity and quality.

Clay is composed of silica and alumina. Alumina, or alumine, is a whitish powder. It is an oxide of the mineral aluminum, is insoluble in water, but has a strong affinity for it, that is, it powerfully attracts and absorbs water from the atmosphere and other surrounding bodies, and retains it for a long period. Thus combined, it dissolves freely in acids, even when much diluted. Common alum is a compound of sulphuric acid, aluminum, and potassa, or potash.

Clayey soils are colored by various substances. The oxide of iron gives a reddish hue. Humus,* when present in large quantities, communicates a dark color.

The adhesiveness of clay soils, and their smooth, almost greasy texture, are

* *Humus* results from the decomposition of vegetables. Gardeners call it *mould*, though the latter term is sometimes applied to certain thoroughly decomposed composts. Peat is an imperfect form of humus, much of the vegetable matter remaining in an organic form. Hence this is the very essence of a fertile soil, while its elements must be nearly those of a living plant.

properties by which they are readily recognized. Their qualities vary with their depth and their combinations, the poorer being very poor, while the better kinds produce heavy crops of wheat and of the grasses, and other herbage plants, but are not so well fitted for the growth of tuberous roots. A *clay-loam* is their most perfect form.

Calcareous or Limy Soils.—*Calcium* is the mineral basis of all the combinations of the acids with lime, forming chalk, limestone, marble, gypsum or plaster of Paris, &c. In one or more of these combinations, it abounds in oyster-shells, in the bones of animals, corals, &c. All soils containing the carbonate of lime (lime combined with carbonic acid) are calcareous. When this is in excess, it is unfavorable to vegetation, as the plants "fire." But in clayey lands, the carbonate of lime is serviceable in loosening the soil. Calcareous soils are well adapted to potatoes, turnips, beets, cabbages, tobacco, peas, corn, barley, &c.

Peat, moor or bog soil, consists almost wholly of decomposed vegetable matter. As well known, it is dark in color, elastic and porous. When not formed under water, it is often acid. Its properties vary with the nature of the vegetation of which it is composed, but no soils are more generally fertile than those abounding with peat.

The following is the classification of soils by a German author:

1. Light dry sand.
2. Moist, very slightly argillaceous land.
3. Argillaceous land.
4. Sandy clay.
5. Rich clay.
6. Warm, dry clay.
7. A lighter, moist clay.
8. A cold, stiff clay.

We gather from Von Thaër's Principles of Agriculture the following table, also illustrating the variety of soils and the crops adapted to each:

Composition of Soils.	Clay.	Sand.	Lime or Chalk.	Humus.	Usually Designated
Clay, with humus,	74	10	4	11.5	Rich Wheat land.
" "	81	6	4	8.5	" " "
" "	79	10	4	6.5	" " "
Marly soil,	40	22	36	4	" " "
Light soil with humus,	14	49	10	27	Meadow land.
Sandy " "	20	67	3	10	Rich Barley land.
Argillaceous land,	58	36	2	4	Good Wheat land.
" "	48	50		2	Wheat land.
Marly soil,	56	30	12	2	" "
Stiffer argillaceous land,	48	50		2	" "
Clay,	68	30		2	" "
Stiff argillaceous land,	38	60		2	Barley land, 1st class.
" "	33	65		2	" " 2d "
Sandy clay,	28	70		2	" " 3d "
" "	23.5	75		1.5	Oat land.
Clayey sand,	18.5	80		1.5	" "
" "	14	85		1	Rye land.
Sandy soil,	9	90		1	" "
" "	4	95		0.75	" "
" "	2	97.5		0.5	" "

We here add certain terms, with their definitions, which are recommended

by high English authority, and which will be found very useful in forming an agricultural nomenclature:

Stiff—Where a soil contains a large proportion, say one half, or even more, of tenacious clay, it is called stiff. In dry weather this kind of soil cracks, and opens, and has a tendency to form into large and hard lumps, particularly if ploughed in wet weather.

Friable—Where the soil is loose and open, as is generally the case in sandy, gravelly, and moory lands.

Strong—Where a soil contains a considerable portion of clay, and has some tendency to form into clods or lumps, it may be called strong.

Deep—Where the soil exceeds ten inches in depth, the term deep may be applied.

Shallow—Where the depth of the soil is less than eight inches.

Dry—Where the soil is friable, and the subsoil porous, (if there be no springs,) the term dry should be used.

Wet—Where the soil or subsoil is very tenacious, or where springs are numerous.

Sharp—Where there is a moderate proportion of gravel, or small stones.

Fine or soft—Where the soil contains no gravel, but is chiefly composed of very fine sand, or soft, light earth without gravel.

Cold—Where the soil rests on a tenacious clay or subsoil, and has a tendency, when in pasture, to produce rushes and other aquatic plants.

Sandy or Gravelly—Where there is a large proportion of sand or gravel through the soil.

Slaty—Where the substratum is much intermixed with the soil.

Worn—Where the soil has been a long time under cultivation, without rest or manure.

Poor—Where the land is naturally of bad quality.

Hungry—Where the soil contains a considerable portion of gravel, or coarse sand, resting on a gravelly subsoil; on such land manure does not produce the usual effect.

The *colors of soils* may also be introduced, as brown, yellow, blue, gray, black, red, &c.

Also, where applicable, the words steep, level, shrubby, rocky, exposed, &c., may be used.

WOOLLEN MANUFACTURE IN GREAT BRITAIN.

The London correspondent of the *National Intelligencer* has an article on this subject, from which it appears that the woollen manufactures of Great Britain were estimated in 1699 to amount in value to £8,000,000, or about fourfold the value of the raw material. In 1844, the value of these manufactures was stated by Mr. McCulloch at £24,000,000; in 1851, its amount was over £30,000,000. In 1699, the weight of wool manufactured was estimated at 50,000,000 pounds. In the year which ended 5th January, 1852, it was 325,000,000 pounds. Owing to the superior fineness of the woollen fabrics now produced, the mass of goods, estimated in yards, has augmented in a degree greatly exceeding the simple increase in the quantity of wool used or the money value of the manufactures. In 1800, the whole import of foreign wool was 8,609,793 pounds, of which nearly 8,000,000 pounds were from Spain and Portugal; the only other countries from which wool was received

were Norway, Prussia, Germany, Holland, Italy, Turkey, and the United States. In 1825, the import of German wools alone was 29,000,000 pounds. Now the entire foreign importation is only 30,000,000 pounds, the colonial wool imported last year having been 51,000,000 pounds; and the entire importation last year, both of foreign and colonial wool, a trifle above 81,000,000 pounds.

The entire consumption of wool in Great Britain in 1846 was 260,000,000 pounds, of which 209,000,000 pounds were produced in the United Kingdom and colonies. In the year which ended 5th January, 1852, the entire consumption was 325,000,000 pounds, of which 295,000,000 pounds were home and colonial produce. In 1616, the whole amount of woollen cloths exported was only £60,000 ; last year it was £8,371,824; to which we may add £1,484,435 for the value of the woollen yarn exported. The cotton manufactures are valued by competent authority in Manchester at £50,000,000 sterling per annum. Regarding the value of each manufacture in proportion as that value arises from the use of British labor and capital, the difference is not so great. In the cotton manufactures, £20,000,000 are paid for raw material, produced in great measure in foreign countries, leaving £30,000,000 as the wages and profits of British industry applied in its fabrication. The woollen manufacture includes £11,958,323 paid for British and colonial raw material, and £17,374,999 paid for wages and profits of British manufacturing industry, together £29,333,332; so that, so far as the two manufactures are to be considered as British products, cotton stands to wool as thirty does to twenty-nine.

LICE ON FOWLS—MODE OF CURE.

Editors of the Plough, the Loom, and the Anvil:

Dear Sirs:—In the last number of the *Plough, Loom, and Anvil*, you speak of washing hen-houses with a decoction of red cedar as a preventive from lice and other insects. The remedy is no doubt good and effectual; but as this tree is found in an extent so limited that its branches are inaccessible to most people, I thought perhaps I might be doing fowldom some service by suggesting another more simple, equally efficacious preventive, which must come within the reach of all.

Our plan—and we have pursued it successfully for several years—is to keep a box or trough filled with dry ashes in the hen-house during the winter, in which they can wallow every day if they choose, and they will wallow there often and long, and never be troubled with insects of any kind. In summer there is less necessity for making this provision, for then they usually find enough mellow dirt, which is also a good specific, fully to answer the purpose; unless the season is wet, so that the ground is in an unwallowable condition, and the dirt adhesive, when the dry ashes are to be provided.

There are two causes for poultry becoming lousy—poverty and filth. The first must of course be remedied by providing a decent supply of food; for the second we have prescribed. The dry ashes or dry dirt will not adhere to them; and the former, in particular, is calculated to remove filth by natural cleansing powers, at least in every rain. We once saw a hen that had nearly lost all her feathers, and whose carcass was as densely inhabited as the Chinese territory, divested of her whole population in a week, and a new

crop of feathers started, by placing within her reach the ash bath, which she improved according to her own taste and inclination.

Lousiness in poultry, unless soon eradicated, will grow into greater and more serious evils. From hens they proceed to calves, and from calves to older stock, until at last each of the farmer's animals becomes a world over which they scatter and multiply, and prey; while poverty and haggard looks seize on their victim, and evil consequences arise which only close and long-continued care can relieve.

There is no stock which pays so good a percentage on the capital invested as fowls. *Attention*, that great requisite to success in all kinds of business, is, however, essential in this; and just in proportion as this is bestowed, will its advantages be realized. Yours truly, W. B.

Elmwood, June 22, 1852.

THE BEST LOCATION FOR PEACH TREES.

The successful cultivation of peach trees seems to require more skill, or rather more knowledge of the tree, than do most fruit trees. A writer in the *New-England Farmer* says that "the present condition of the *peach* in this vicinity so fully confirms the views of observing and practical horticulturists as to the best location for them, that it may be well to put them on record for the guidance of future operations. I have," he continues, "three acres in peach trees, about one half of which are situated on low, plain land, and the other half on a high hill in the immediate vicinity. My trees on the low land have been injuriously affected and many of them entirely destroyed by the severity of the past winter, while those on the hill, occupying a bleak and exposed position, never looked more finely, and are now in full blossom. The *popular* impression is, that plain lands, with a somewhat sandy soil, are the best adapted to peach trees, and that they cannot live at all on the bleak and ragged eminences which form so large a portion of every New-England farmer's domain. But this is one of the numerous cases where the popular belief in horticultural matters is at variance with the well established results of close and scientific observation. The peach loves an elevated locality, and one nearly as rough and rocky as the vine luxuriates upon on the banks of the Rhine. It requires a soil of considerable strength, and if it has a clayey subsoil so much the better. My own observation and experience also go to overthrow the vulgar belief that *highly manured* grounds are the most favorable to the peach. A part of my peach orchard occupies ground which has for half a century been used as a garden, and which has been liberally manured. The consequence is, that there is an excessive growth of wood, and a consequently diminished product of fruit. Such a liberal application of manure is a sort of forcing, hot-bed process, which gives the tree a luxuriant growth, but diminishes its capacity for fruit bearing. The peach tree requires a *cultivated* soil, and indeed it is preposterous to think, as many do, that it will flourish in sward land, even if the soil be ever so good. The soil about peach trees needs to be thoroughly stirred by the plough and the hoe, at least as often as every other year, or they will do little or nothing. Plant your peach trees, then, on your hills, and among the rocks where there is a good depth of soil, and let the soil be frequently stirred, and enjoy only a slight quantity of manure, and you will find that they will successfully resist the severity of our winters,

load your table with most luscious fruit, and enable you to send to market an article which is always in demand, and which will amply repay your toils for its production."

LANDS, CROPS, AND MARKETS IN VIRGINIA.

A WRITER in the *Genesee Farmer*, dating Pittsylvania county, Va., thus describes the soil and productions of Virginia:

"Every variety of soil abounds—the stiff, red clay, with a mixture of mica; a brown chocolate, *slaty;* the light gray, sandy, chinquepin; the mulatto and pipe-clay soils in some parts. A farmer of my acquaintance, who has travelled a good d al, particularly in the South and Southwest, remarked to me not long since, 'that he has never seen land better adapted to clover, or that improved more rapidly from the use of gypsum, than some of the land in this vicinity.' I have several fields well set in clover, sown last spring, which have received no other help than a little gypsum, in which the seed was rolled. My soil is a light gray, sandy one, well adapted to the production of tobacco of the finest quality—such as, if properly managed, will bring $30 per cwt.

The soil generally is well adapted to the growth of tobacco, corn, and oats; tolerably well to wheat, and might produce it *very* well if proper attention was paid to its cultivation. Most time and care being devoted to tobacco, the land is never manured for other products. Maize is hastily planted in April, and hurriedly worked over two or three times, and then 'laid by' until ripe: yield, from ten to fifty bushels per acre. Wheat is generally sown on the tobacco lots after the tobacco is housed. Usual time for sowing, from the 20th of October to Christmas. Oats are sown in the spring on the corn land of the preceding year. Rye and buckwheat are grown by but few; they now succeed very well.

Wheat is now worth 80 cents; corn, from 80 cents to $1; rye, 75 cents; oats, 50 cents. The high prices of the three last are owing to last year's drought. Average prices for wheat, from 75 cents to $1.25 per bushel; rye and corn, 40 cents to $1; oats, 25 cents to 50 cents; tobacco, $5 to $50 per cwt.; field peas, 75 cents to $1 per bushel; onions, $2 to $4; Irish and sweet potatoes, 50 cents to $1; clover-seed, $4 to $5; dried apples and peaches, $1 to $2.

These, with some few cattle and horses, are our principal staples and subjects for sale in market. Our market towns are, Danville, in this county; Richmond, 120 miles distant; Lynchburg, 40 miles; and Petersburg, Farmville, and Clarkesville, from 50 to 60 miles distant. These places are becoming more and more accessible by means of railroads and canals, made and being made, through this part of the State. The Richmond and Danville railroad is in process of rapid erection, and passes through this county. The Virginia and Tennessee railroad, commencing at Lynchburg and extending to the State line, passes through the adjoining county, Bedford. The James River and Kanawha canal, commencing at Richmond, extends 40 miles above Lynchburg. And finally, there is a Bill before the Legislature, with every prospect of being passed, for a plank road from Pittsylvania C. H. to Lynchburg, 55 miles. Thus, the facilities of getting to market, though somewhat limited now, will soon be such as to enhance the value of lands, and add much to the resources of the country.

The easiest and most direct route to this county from New-York is by Bal-

timore and Washington to Richmond, thence up James River; or by land on the railroad and by stages.

Fruits of various kinds grow well, and people are beginning to pay much attention to the culture and propagation of improved stocks. Peaches of fine qualities, and their kindred, grow in great abundance, and without much attention; while apples, pears, &c., require attention to succeed well. The vine succeeds admirably, though no one has yet turned his attention to making wine. Currants, gooseberries, raspberries, and strawberries are abundant. The latter grow wild in great profusion, in old uncultivated fields. Forest trees are large, abundant, accessible to saw-mills, and well adapted for lumber.

Of the various trees, I may enumerate the pine, tulip, chestnut, seven varieties of oak, hickory, &c., which are common every where. The walnut, locust, wild cherry, maple, sycamore, and other useful lumber trees are found in various parts, and bring remunerating prices in market. Lumber is worth from $1 to $1.50 per hundred; shingles of heart-pine, from $2.25 to $2.50 per thousand; in the country, at the stump, $3, if delivered."

THE NATIONAL AGRICULTURAL CONVENTION.

To the Editors of the Plough, the Loom, and the Anvil:

GLANCING my eye at your account of the doings of the "National Agricultural Convention," in Washington, on the 24th and 25th days of June last, I am surprised at your statement on page 54, No. 1, vol. V., that the Convention came to no specific result. True, the resolutions offered by Mr. Holcomb, as also those offered by Mr. Gentry, were not adopted; but a substitute, instructing the Executive Committee to make application to Congress for such aid in behalf of agriculture as their wisdom may approve, was proposed by Mr. King, of New-York, and adopted with very general assent. (I speak from recollection of their doings.) As this, in my judgment, was the wisest act of the Convention, I am sorry it is not passed to the credit of the Convention in your journal. For this body, unassimilated as they were, coming together for twenty-four hours only, from all parts of this wide-extended Union, to have presumed to have dictated to Congress what they should do, would have been the extreme of arrogance. It is much better to feel their way along, and to advance no faster than they can defend their position. Very truly yours, J. W. PROCTOR.

Danvers, Mass., July 9th, 1852.

REMARKS ON THE ABOVE.

We are very glad to be reminded of the inaccuracy of our remark above alluded to by Mr. Proctor. We wish, however, to correct the impression under which he labors. We did not state, as he will perceive, that "*the Convention* came to no specific result," but that the "sundry discussions" of *the session on Friday* led to no such result, and that therefore the details *of Friday's proceedings* are omitted, while we devote a considerable space to the details of the previous session, as exceedingly important. Our remark had reference *only* to the proceedings of Friday; and in relation to the committee he refers to, we agree with him that such a committee, if efficient in their action, may accomplish much. We intended, however,

to be understood that no *direct* result of importance was accomplished by the session alluded to; but we ought, no doubt, to have been more careful in the selection of our words. Time will develop the value of the action of this committee.

We purposed only to estimate the value of what was already secured in the organization of the National Society; while incipient measures, looking to future results only, cannot be placed precisely in the same category.—Eds.

SCIENTIFIC AGRICULTURE.

Hon. M. P. Wilder, in an address before the New-Hampshire State Agricultural Society, at its last exhibition, speaks thus truthfully and forcibly:

"Under a system of scientific cultivation, the agricultural products of this State might be doubled without additional expense, and, of course, her capital. You would thus retain the enterprising sons of her yeomanry on the farms of their fathers; those sons who now seek their fortunes in other States, professions and employments. In New-England there is land enough, and to spare. It appears from the recent report of the valuation committee of Massachusetts, that if forest be excluded, not more than one fourth of her remaining improvable territory is under cultivation. If the other three fourths were only as highly improved, her agricultural products would be quadrupled; but much of it is capable of higher cultivation, and of producing crops many times larger than the present amount. This would enable her to sustain a population of many millions. Away, then, with the apprehension that New-England cannot sustain, by her agricultural products, her swarming population! She may not only greatly multiply her present crops, but introduce other products equally important with any now under cultivation. What a vast amount of trade has resulted by the introduction of flax from Egypt, which, by recent improvements in mechanical and chemical science, may yet become as important to the free labor of the North as cotton is to the slave labor of the South! What an amount of commerce has been created by the introduction of the mulberry from Eastern Asia into Europe, which gives employment to millions, and clothes other millions with their silken fabrics! By the introduction of the potato from South America, which has for ages fed the famishing millions of Ireland, and the partial loss of which, within a few years, has produced starvation and misery in that ill-fated country, and such pecuniary loss and lamentation through the civilized world! By the introduction of wheat, which gives immense wealth to the rising empire of the West, freights innumerable cars and ships, and feeds millions in our own and other countries!

Science has already improved our agricultural productions, and will continue to improve them. How much she has done for the potato! Compare the original—small, black, tough, and acrid—with our numerous fair, mealy, palatable varieties! How dissimilar in quality, flavor, and size! Compare the luscious peaches with the original species, the almond, tough, dry, and bitter; our magnificent apples with the sour crab; our plum with the parent sloe. The Bartlett and the Seckle pear, the green Gage plum, and the Baldwin apple, were produced from accidental seed; but science teaches how to obtain new and rare varieties, by hybridization, or crossing the existing varieties.

This art depends on the sexual character of plants, which was developed by Linnæus, one century ago, amidst that ridicule and scorn which so often attach to discoveries, inventions, and new theories in our day. Our farmers are familiar with facts which develop the principles on which this art depends. They are aware of the necessity of keeping their varieties of corn, squashes, and other grains and fruits, separate, lest they should intermix, and produce, not each after its kind, but other sorts unlike the original, sometimes as speckled as Jacob's cattle. But science alone can teach how to turn this law of nature to the highest practical account; and how, by it, to produce new and valuable varieties, adapted to their particular location and climate. By a corresponding law in the animal kingdom, we already have ornithologists who pretend to breed fowls to order, in respect to size, plumage, and other qualities; and also among our experienced stock breeders some who profess to raise domestic animals with similar exactness. Infinite Wisdom has fixed those laws and given us faculties to comprehend them, and they must be thoroughly understood before farming can be raised to its legitimate and rightful position. Witness an approximation towards this general result in the improved breeds of our cattle, swine, and horses, and in the endless number and variety of fruits and flowers produced, the last twenty-five years, by artificial impregnation. Thus, Mr. Knight, President of the London Horticultural Society, produced the Black Eagle and Elton cherry, the Dunmore pear, and other new and valuable fruits, perfectly suited to that latitude; and the process is equally applicable to the production of new grasses, grains, and vegetables, as to animals, flowers, and fruit.

This principle also teaches the art of raising the most valuable seeds, to avoid the immense annual loss of labor and money, from the use of that which either never germinates, or if it does, produces an inferior crop. Age, which improves some seeds, destroys others, and the art and importance of procuring the best are but imperfectly understood by most of our practical cultivators. We have room but for a single fact. An association of scientific cultivators exists within our knowledge, whose object is to raise seed for each other. The cabbage seed which they raise for themselves they sell at ten dollars per pound, but that which is raised without this care is sold for one dollar per pound; hence, the former, which is really the cheaper, will not pay a profit, because its superior worth is not understood by our farmers."

TREATMENT OF COTTON LANDS.

We are desirous of arousing the attention of the Southern planter to the importance of the subject announced at the head of this article, and we are glad to see some evidence of an increasing interest in it. This evidence we have not only in private letters, but in our agricultural periodicals. A recent *Alabama Planter* has treated the subject with ability, in an article, much of which we here transfer to our pages. After alluding to the necessity of furnishing the elements of plants in the soil, the writer says:

Let us examine, in illustration, the nature and constituents of the cotton plant, and the manures proper to be used in its cultivation. According to Professor Mapes, of New-York, whose letter has been recently published in

this paper, the constituents of cotton lint are described in the following analysis:

Phosphate of Lime,	25.52
Carbonate of Potash (with a trace of Soda,)	44.64
Carbonate of Lime,	8.84
Carbonate of Magnesia,	7.23
Sulphate of Potash,	3.17
Silica,	4.46
Alumina (a trace,)	
Chloride of Potash,	
Sulphate of Lime,	6.14
Phosphate of Potash,	
Oxide of Iron and loss,	
	100.00

And of cotton seed in the following:

Phosphate of Lime,	60.91
Sulphate of Potash,	2.70
Phosphate of Potash,	32.03
Silica,	1.70
Carbonate of Lime,	0.43
Carbonate of Magnesia,	0.25
Chloride of Potash,	0.23
Sulphate of Lime,	
Sulphate of Magnesia,	1.65
Oxide of Iron,	
Soda and loss,	
	100.00

The analysis of the cotton stalk, as we learn from another source, exhibits the following result:

Phosphoric Acid,	35.43
Oxide of Iron,	3.33
Coal,	1.05
Sulphuric Acid,	3.19
Oxide of Lime,	10.88
Oxide of Magnesia,	10.61
Potassa,	27.82
Soda,	2.75
Silicic Acid,	trace
Loss and Chlorine,	4.84
	100.00

We find from the analyses that phosphoric acid, lime, potash, sulphuric acid, and magnesia, constitute the chief inorganic constituents of cotton lint and cotton seed. Of course then the partial absence from the soil of one or more of these cannot but materially affect the production. Affirmatively, therefore, it is only by the application of the missing elements that the production can be increased. This proposition is clear enough so far, but how is the planter to know which are the missing ingredients? Plainly and evidently, by an analysis of the soil; which alone can accurately exhibit its

deficiencies and its requirements. But then the analysis is not always readily obtainable, or it is not convenient, and to some, undesirable when procured; and consequently without further help, the information sought to be given is simply superfluous and useless. In view of these circumstances we will endeavor to furnish some items of information, deduced from good authority, approximating results arrived at by analytical investigation.

Plants, such as are usually cultivated, may be classified under three heads. "Thus, *potash plants* are those, the ashes of which contain more than half their weight of soluble alkaline salts. *Lime plants* and *silica plants*, those in which lime and silica respectively predominate." The ingredients thus indicated, continues Liebig, are those which form the distinguishing characteristics of the plants which require an abundant supply of them for their growth. By reference to the analysis stated, it will be readily seen that the cotton plant partakes largely of both potash and lime. Practically then, it is unnecessary to cipher out to which of these classes this plant belongs, as it is perceived it is a large feeder on both.

Now the practical and particular inquiry is, will the lime or potash plants flourish on a given soil? If the lime plants grow well, we know that the soil is not deficient in lime. If the potash plants flourish, we may know that that constituent, or a good substitute, is present and not wanting. But as the cotton plant belongs to one of these latter-named classes, in calculating for that crop, reference must be had to the growth of other plants in the different classes, in order to ascertain the preponderating ingredients of the soil under observation. To do this understandingly, the planter must know the constituents of the usually cultivated crops, the class to which they belong, and their leading requirements.

This is what we now propose to furnish—not completely, however, but in a form easily enlarged by readers and close observers. But as plants differ very much in their various parts, we separate those which are thus widely different into the class to which they belong, as follows:

Potash Plants.	Lime Plants.	Silica Plants.
Turnips,	Tobacco,	Oat Straw and Grain,
Beets,	Pea Straw,	Wheat Straw,
Irish Potatoes,	Irish Potato tops,	Barley Straw and Grain,
Sweet Potatoes,	Clover.	Rye Straw.
Rye—Wheat,		
Field Pea,		
Carrots,		
Parsnips,		
Indian Corn.		

A field which will not produce the cotton plant, or which produces too much stalk and too little lint, or sparingly of both, may be considered as deserving a treatment better than that furnished by the plough and hoe. What that treatment is, we have said, can be determined by close observation and attention to the vegetation which that field is known to favor. Thus in high and dry pine lands lime abounds; in lands which support an oak growth, potash abounds, &c.

Returning to the cotton plant, we have to observe—as indeed we might in relation to many other plants—that the phosphates are indispensable to the seeds; and without seed there is not much lint. So then, in looking to the tables of analysis, the vegetation of a field under inspection, and the analysis

of that vegetation, our conclusions are and must be, that poor lands intended for cotton require first the phosphate of lime, (ground bones,) gypsum, (plaster of Paris,) or sulphate of lime. (Eighteen and a half pounds of sulphur will make one hundred pounds of gypsum by the proper addition of eighty-one and a half pounds of lime.) Our recommendation is, for poor cotton lands, to plant the small-seeded varieties of cotton, because their requirements of phosphates are less than others. We think our remarks will tend to discover such other additions as may be needed. In respect to other plants, we observe as before: first learn of what they are composed, and observe the growth, and a farmer will soon know exactly what manures are required for his crops. In conclusion, we may state that all lands under the free influence of the Gulf breezes are deficient in phosphates to a greater or less extent.

PRIMARY FACTS IN FARMING.

We have given a synopsis of the elements of several plants, and find a general resemblance in all, but at the same time a distinct and permanent difference. The Oat never becomes Rye, nor the Barley Wheat. We have, indeed, known men to contend for this sort of "progress" both in the animal and vegetable world; but we have never been able to appreciate the logic by which such doctrines are defended, nor have any facts been brought to our notice which tend to prove such a law in nature.

If we compare the elements of a good soil with those of plants, we shall understand what food is necessary for the germ of a given crop. We make no allusion, at present, to those peculiar plants which are to some extent anomalous, that is, which produce substances found in no other vegetable growth—such as camphor, India rubber, &c.—as these form a topic of sufficient interest to receive especial attention by themselves, by and by. But what are the elements of soils?

Soils, as already stated, are composed of *organic* and *inorganic* elements. The *organic* are gases, which are supposed to be derived from the atmosphere, as oxygen, carbon, &c. The *inorganic* are *ashes* of plants, the incombustible elements, which cannot be reduced to a gaseous state by *ordinary combustion*. They consist of the decomposed elements of plants, and of the minerals, earths, &c., found in the soil. Of these, some are soluble in water, and some are insoluble, except when combined with another substance. Some will dissolve freely, others sparingly. Solution is, however, indispensable to the appropriation of any element by the growing plant. While it remains in *grain*, though ever so minute, it cannot enter into a living organism. Thus: *Lime* is a mineral. As a dry powder, it cannot be absorbed; and hence dry lime is as barren as solid flint; while flint, in a proper condition, is essential to a fertile soil. Dissolve the lime, and it acts at once, entering into the cell-work of the plant. *Iron* is insoluble in water, when uncombined; but if united with oxygen, forming *rust*, or an *oxide of iron*, or with an acid, forming a *salt*, as the *sulphate of iron*, &c., it becomes soluble. Iron is also found, very abundantly, combined with sulphur, forming *sulphuret of iron*, or *iron pyrites*, which is soluble.

If we compare the analyses of soils and manures with those of different plants, and notice their agreements and disagreements, we shall learn their adaptation to the growth of crops. The former render the soil fertile; the latter,

the disagreements, render it barren, or unsuited to the growth of the given plant.

The crops being composed of the dissolved elements of the soil and of gases from the atmosphere, on an examination of some table containing the analysis of any species, whether it be grain, corn, grass, or any other sort, it will be apparent what elements of the soil will be exhausted by one or more growths of that species. This being known, the next question is, what manures will replace them; or if several sorts of manure contain the desired elements, which can be most economically applied in the given instance; or, knowing the elements of the desired crop, and of the soil, we are able to decide what manure is requisite to supply what is wanting in the soil. Let us then place side by side the analyses of certain soils and of some manures.

			Ash of		
	Alluvial soil in Ohio.	Mountainous district of Ohio.	Fish.	Rape cake.	Peat from Holland.
Silica,	79.54	87.14	0.30	13.07	47.01
Alumina,	7.31	5.67	....	....	4.05
Oxides of Iron,	5.82	2.22	0.65	4.50	6.60
Peroxide of Manganese,	1.32	0.36	....	....	1.00
Lime,	0.62	0.56	27.23	8.62	13.60
Magnesia,	1.02	0.31	3.42	14.75	4.90
Potash,	0.20	0.12	21.89	21.90	0.20
Soda,	0.02	0.02	....	....	1.00
Phosphoric Acid, &c.,	1.78	0.06	40.49	32.70	2.00
Sulphuric Acid, &c. ,	0.12	0.03	1.40	1.62	7.30
Chlorine,	0.04	0.04	....	....	1.20
Humus,	....	2.38	....	....	....
Carbonic Acid (with lime),	....	0.08	....	2.15	4.10
Nitrogenous organic matter,	....	1.01	....	....	....
Chloride of Sodium,	....	....	2.31	0.46	....
Chloride of Potassium,	....	....	2.31	0.17	....

In these tables we find that degree of resemblance or similarity, not to say identity, of properties and qualities, between the soil and its "amendments," and the growth which it is to nourish and sustain, which an intelligent artisan would require between his stock and the goods to be manufactured. The judicious farmer, knowing the products demanded, will note the abilities and the disabilities of the soil, and will supply the latter, and at the same time guard against the exhaustion of the former.

But the subject requires us to call attention, at this point, to another important fact. Manures are of various sorts, and operate in different modes. Some supply the elements of plants that may be wanting in the soil, as above illustrated, and these are called *Fertilizers*. They serve as *food* for the plant.

Other kinds improve the texture of a soil, when it is too loose or too stiff. Lime, marl, clay, sand, &c., are of this class. These may, at the same time, act as fertilizers; but, if so, they are beneficial in these two ways, one of which is entirely distinct from the other. These are termed *Ameliorators*.

Other applications give activity, increased energy, to vegetation, "forcing" plants to absorb nourishment more rapidly from the soil and from the atmosphere. One of the effects of ashes is of this kind. Light and heat exert a similar influence. These are called *Stimulants*. Many substances, no doubt, act both as fertilizers and as stimulants, as fresh dung, perhaps plaster, &c.

When the proper classification of soils, as given on a preceding page, is well understood, we shall be prepared to understand what amendments are needed in a given case, and to apply, intelligently, the different kinds of manure.

THE PARAUTOPTIC BANK LOCK—ANOTHER WONDER.

This lock, familiarly known at the great London Fair as Hobbs's Lock, is the property and the invention of our neighbors, Messrs. Day & Newell. Its name is composed of two Greek words, signifying, in a liberal rendering, *defying discovery*, (παρα and οπτομαι.) It is the most wonderful lock ever invented. Its grand principle may be described without a diagram, perhaps, while some of the details of its machinery are too complicate to be understood by mere description.

Suppose, then, that ten or fifteen thin plates of steel, technically called *tumblers*, lie side by side, parallel to the bolt and above the key-hole, each of which admits both of a vertical and horizontal movement. If no obstacle intervene, it is obvious that an ordinary key inserted into the lock, and turned upwards, would raise all these tumblers alike, until the key stands in a vertical position. Turning the key still further, these tumblers will descend to their first position. If the end of the key was notched, or filed into sections of different lengths, each corresponding in thickness to the thickness of the tumblers, the plates would rise unequally. If these sections of the key were separated, and the bits fastened together by a screw running through them, it is obvious that their order or arrangement might be changed at pleasure, and these changes would produce a corresponding variety in the position of the tumblers. Such is the arrangement of this lock; and now for the advantage gained by it.

Each of these tumblers must be raised before the bolt moves; and when this movement takes place, the tumblers move with it; and as they move, they fasten themselves into certain teeth or notches made to receive them in the exact position in which the key leaves them; and besides this, a "dog," placed in the other end of the lock, also follows the tumblers and effectually prevents any force from moving either or all of them until itself is disposed of.

Next, suppose that the bolt is thrown out, and the door of the safe on which it is fastened is secured. The same key that locked can unlock with the greatest ease. But if these bits are taken apart, and the key is made up again in a different order, the bolt cannot be started. The position of each tumbler was controlled by its own bit, and is in a position to be governed by t. If any other bit comes in contact with either of them, it will be unfitted to it, and the key is thus brought in contact with an obstacle that cannot, by any means, be got rid of. The progress of the key is arrested before it can move the dog behind the tumblers, and the other end is secure, each tumbler in its own notch, from which the key has no power to remove them.

These two fastenings at each end of the tumblers are in separate chambers, and both are distinct from the chamber of the key-hole.

A blast of powder in the key-hole cannot affect the lock, because it is in a separate chamber, one end of which is formed of a piece of brass, well fitted, but not fastened to it, and only a moderate force is required to throw it out. It is as if the breech-pin of a gun were a mere plug, made to adhere to the barrel by wax, for example, producing less adhesion between it and the cylinder in which it is placed than there is between the barrel and the wadding when forcibly driven home by the ramrod, or the bullet when tightly fitted into the bore of a rifle. The breech-pin will be forced out, while the wadding or the bullet is unmoved.

If access should be had to the lock, by boring or otherwise, no advantage

would be gained; for the tumblers are fastened at both ends of the lock; and if they were not, there are no means of knowing which tumbler to alter, nor how many of them, nor how much to alter one or another; and thus these three groups of insurmountable difficulties must be overcome ere the bolt can be moved. And if the bolt is thrown out, and the bits of the key are separated, it is obvious that, as a matter of safety, a memorandum of the order in which they were placed must be made, for the owner or maker has no advantage, in opening the door thus fastened, over an entire stranger. Each bit is numbered for this purpose.

But suppose we sit down and place the bits at random, hoping to hit the right combination. This is our only chance for getting at the treasure we covet; and this is, in fact, what several have undertaken to do, both in England and on the Continent. The reason why all have failed, as they have hitherto, will be obvious, when we observe that a series of ten tumblers, the number generally used in locks for banks, &c., admits of 3,628,800 changes. How long would you expect to try, ere you would hit the right one? But the largest locks have fifteen tumblers, and of course fifteen bits in the key. Such a series admits of 1,307,674,468,000 changes. Are you inclined to undertake the trial? A key with twelve bits admits only of 479,001,600 changes. Probably this is sufficiently formidable for you to make the experiment with. When the lock is constructed with ten tumblers and ten bits to the key, there is only one chance in 3,628,800 of getting the right one. To all practical purposes, this, *in all conscience*, is enough. The burglar's chance is worthless; for, leaving out of the question the cost, the labor, and the risk, it would hardly pay for grinding his tools—it being worth but one dollar, provided success would secure to him the round sum of three and a half millions of dollars.

But, according to our ideas of the "doctrine of probabilities," or "the science of chances," the numbers given above, and stated also in the pamphlet of the proprietors of the lock, do not tell the whole story. This is not all that is required of an actual burglar, but is only the rule when an experimentist, having the key and the lock at his own exclusive control, can operate at his leisure. An actual burglar has other difficulties to encounter. He knows not even the number of tumblers to be moved. He knows not the position of any one of them. He knows not the length of bit necessary to reach any one of them. All these must be known ere he can succeed. But this is not all. While he is beginning to make trial of his keys, the lock, by daily use, is changing its position from day to day, and perhaps several times a day. The combination that suits at twelve o'clock to-day will probably never suit thereafter. Hence the problem the burglar has to solve is, not to throw a given number of dice till the upper faces all correspond with the upward faces of another stationary set, which is the chance above calculated; but it is rather to throw *two sets* of dice, each set consisting of the numbers above given, until both exactly correspond. This is the most accurate form of stating the case according to any fixed principle; although, to be strictly applicable, the lock should be changed as often as the burglar experiments. But if this is so, or any thing like it, he might well despair; for, with the smallest lock mentioned, he has only one chance for success out of 13,168,189,440,000. This "chance" or "probability," calculated mathematically,—provided nothing is allowed for time, labor, expense or risk, and provided, also, that success rewards him with a million of dollars,—is worth a trifle more than .00007 of a mill.

Wherein, then, consists the security and excellence of this lock?

1. In its huge dimensions, giving it strength, and forbidding all hope of breaking by violence. 2. In the simplicity of its complexity, presenting a task to any burglar in which the most ingenious must expect only defeat, and at the same time an ease of motion which places it in the power of the youngest child. 3. In the practical impossibility (possible in theory) of so arranging the bits of the key that they will be adapted to the then condition of the tumblers, and be able to find a passage among them to those contrivances which hold the bolt fast in spite of any conceivable force that can be applied to it. The order of the tumblers may be changed every time the bolt is drawn back, so that knowing the condition of the key now affords no indication of the position in which the lock may be left an hour hence.

There are other important contrivances, both inside and outside the main walls of the lock, which cannot be explained without a diagram. One of these either covers or exposes the key-hole; another guides and confines the tumblers, while still another acts directly upon the "dog." Suffice it to say, further, that we can hardly conceive it possible to carry the security of bolts farther; and yet Mr. Newell informs us that he is about to make some improvements even upon this wonderful invention. As it stands now, it has acquired for him an honorable fame, at the very head of his profession, wide as the world. We wish that multitudes of other eminent men were as worthy of honor as he.

HORTICULTURAL.

We give below sundry suggestions in relation to various departments of garden culture.

Compost for Green-House Plants.—The best and safest compost for all plants is two thirds leaf-mould, (entirely decayed leaves, to be found in the woods,) and one third fine sand. Any thing will grow in this, and a great many things will not grow without it.

Specific Manure for the Pear.—Coal cinders, iron filings, charcoal dust, &c., such as is usually found about a blacksmith's shop, are excellent for pear trees. Turn under the surface about three or four inches deep.

Liquid Fertilizer.—Mr. Downing recommends the following for strawberries, early peas, fuchsias, dahlias, &c.:

Dissolve half an ounce of sulphate of ammonia in a gallon of water, and apply it to the roots of green-house or hardy plants with a watering-pot *every sixth time*—the other five times use plain water. Plants should not be watered with it daily, or they will die—"just as certainly as a man will who drinks nothing but pure brandy." It should be mixed several hours before it is used.

Rose Slugs.—A decoction of tobacco, about the color of weak black tea, thrown on the under side of the leaves of roses, will destroy the slugs. Repeat it twice, about sunset, and you will get rid of them.

Pruning Evergreens.—In pruning evergreen trees, the lowest branches should, in all cases, be the longest, whatever the shape of the head may be. This style of pruning is in accordance with the natural growth and habit of nearly all evergreens, and produces that beautiful park-like appearance, so

much admired in English landscape gardening, where the lowest branches seem to spring directly from the turf, and form a continuation of the grassy lawns of crisp and close-shaven verdure.

FUMIGATOR.—The following method of fumigating plants, houses, &c., will be found effectual. Place some red-hot cinders in a flower pot, elevated upon bricks, so as to allow a current of air through it, throw in tobacco, and keep the house shut 12 hours. The addition of a little milk of sulphur will make the smoke more pungent and destructive.

ARTESIAN WELLS IN ALABAMA.

De Bow's Review describes a well of this description, bored by Mr. N. B. Read, for Joel Matthews, Esq., at the site of his cotton factory in Cahaba. The writer says:

The first bore was about three inches in diameter, and the discharge is 600 gallons per minute, or 864,000 gallons in 24 hours, exceeding, probably, any well in America. Mr. Read is now engaged in rimming out to a diameter of six inches. The force of the water greatly facilitates this operation, as it throws out at the top all the material which the auger detaches.

This I believe to be the first well in Alabama which has been sunk below the water which, rising to the surface in abundance for ordinary purposes, is found beneath the first stratum of soft limestone.

In this locality, this stratum was perforated to a depth of 363 feet from the surface, when a stratum of sandstone was reached five feet in depth. In this formation marine fossils were found in great abundance, shells, star-fish, &c. Below this, in a stratum of gray sand, three feet thick, water was found, which rose to the surface in a bold stream.

This is the point, ranging from 200 to 600 feet below the surface, at which it is customary to cease operations in boring Artesian wells in this country; but in this instance, Mr. Matthews discarded the fear of losing the water, which has hitherto deterred penetration to a greater depth, and allowed Mr. Read, at his solicitation, to extend his operations downwards in search of a more abundant supply. Immediately below the water was found a formation of very hard sandstone, one foot three inches thick. Then a formation, which Mr. Read describes as a "dark-blue, sticky sand," nine feet three inches thick; then blue soft limestone, seven feet; bluish gray sand, nineteen feet; green sand, three feet. Below this last stratum, water was again found in a gray sand, or fine debris of mica, quartz, and feldspar, probably disintegrated granite, being 40 feet 6 in. below the first water, and 411 feet 6 in. below the surface. This stratum continued unchanged for 125 feet in depth, and the water obtained from it greatly augmented the supply. Below this, a hard gray sandstone 11 feet thick was encountered, where water was again found in sand, generally similar to that above the sandstone, except that it was traversed with occasional thin strata of soapstone. This formation, with water, constantly augmenting the discharge of the well as the depth was increased, continued for 299 feet, or 710 feet 10 in. from the surface, where the boring terminates for the present.

It is Mr. Matthews' intention, after he has rimmed out the well to the diameter of six inches, for the whole depth, to continue boring so long as the water continues to increase in quantity. It is the design to tube the well, so far at least as to shut off the water found beneath the first stratum of lime-

stone. It is thought that this will greatly increase the force of the discharge from the lower fountain, which is the main source of the supply.

Many wagon-loads of sand have been thrown out from below by the force of the water. The water, however, is perfectly clear and limpid, and pleasant to the taste. Pieces of stone the size of an egg, or larger, or a silver half dollar, if thrown into the well, are immediately ejected.

NEW BOOKS.

De Bow's Industrial Resources and Progress of the Southern and Western States.

This work is now nearly ready for the press; having been prepared to supply the large and increasing demand for the *complete series* of De Bow's Review, in twelve volumes, the back numbers of which are nearly exhausted, and which it would require a very large outlay to reprint. As a substitute for these, the editor proposes to make a selection of all the important and valuable papers contained in them from the beginning, condensing, re-arranging, and completing to date, and throwing the subjects, after the manner of the encyclopædias, into alphabetical order. In this manner every thing of interest and importance will be preserved in a *convenient form for reference;* and the volumes will constitute the only repository for the shelves of the library of such information, which by means of the monthly numbers hereafter will always be brought down to date.

The volumes will embrace the gist of every thing that has appeared in the Review relating to the *Southern and Western States*, to wit: Their History, Population, Geography, Statistics; Agricultural Products of Cotton, Sugar, Tobacco, Hemp, Grains, Naval Stores, etc., etc. Manufactures: detailed accounts, statistics and history of all, branches. Internal Improvements: complete statistics of Railroads, results, profits, expenses, costs, advantages, miles in projection, constructed, completed, etc.; Plank-roads. Canals, Navigation, etc. Laws and Statistics: management and amelioration of slavery; Commerce of the South and West in all of its minute particulars, etc., together with an historical and statistical sketch of each of the States and cities. The domestic and foreign trade, resources, manufactures, etc., of the United States. The Census returns from 1790, with the complete statistics of the Census of 1850.

The volumes will be issued in September, October, and November next, at $10 for the set, the publisher receiving orders in advance, payable on delivery of the volumes, either to merchants through whom the orders are received, or to the parties themselves.

De Bow's Review, of which this is a condensation, is published monthly in New-Orleans, and other Southern and Western cities, 112 to 140 pages, small print, fine paper and engravings, and treats of all the great industrial matters relating to the Southern and Western States, and incidentally of the North and the Union. Terms $5 per annum.

The Cyclopædia of Anecdotes of Literature and the Fine Arts; containing a copious and choice selection of Anecdotes of the various forms of Literature, of the Arts, of Architecture, Engraving, Music, Poetry, Painting, and Sculpture, and of the most celebrated Literary Characters and Artists of different countries and ages, etc. By KAZLETT ARVINE, A.M., author of the "Cyclopædia of Anecdotes." With numerous illustrations. 8vo, pp. 698. Boston: Published by Gould & Lincoln, 59 Washington street. 1852.

We have examined the above beautiful volume with more than usual interest, and never lay it aside but with feelings of regret. The editor has justly compared this interesting collection of Anecdotes of Literature and the Fine Arts to "precious metal from olden mines, and newly-discovered placers," for which "all climes and countries have been explored." Some of them are "gems from their native rocks," but "many more from the decaying caskets and coffers in which they were previously stored by others;" but here collected, newly polished, and set in forms of order and beauty for use. It is truly a choice collection—a valuable and interesting embodiment of curious and rare articles, relating to Architecture, Authors, the Drama, Engraving, Fiction, History, Music, Painting, Poetry, Printing, Sculpture, &c., &c., more copious, and selected

with greater care and better judgment, than those of any volume which has preceded it. Although abounding with humorous incidents, sallies of wit, and flashes of genius, together with graver and more serious matters, nothing has been admitted which is calculated to cast a single sneer or inuendo against virtue or religion; and in this respect it is eminently adapted to every family and individual.

Instructors of youth and popular lecturers who would give information on the various topics of which the volume treats, will find it a valuable auxiliary in the enforcement and illustration of their communications to others. It should find a place in every library in the country.

Children, their Hydropathic Management in Health and Disease.

In a late number a critical notice of this work appeared, endorsing it more fully than accords with the views of the editors, neither of whom has any "*predilections*" for the "hydropathic treatment of disease." The article was written by a friend to whom we often intrust the preparation of our critical notices, and to whose views, as a general thing, we can cheerfully subscribe. The mistake of the writer, in the present instance, consists in making the editors endorse his own individual opinions, and thus committing them on a point in which they differ materially from himself. The error was not discovered in time to prevent its going abroad with the full and unqualified endorsement of the editors. We consider this explanation due to the reader and to the public, no less than to the editors themselves.

The History of Palestine, from the Patriarchal Age to the Present Time; with Introductory Chapters on the Geography and Natural History of the Country, and on the Customs and Institutions of the Hebrews. By JOHN KITTO, D.D., Editor of the "Pictorial Bible," "Pictorial History of Palestine," "Cyclopædia of Biblical Literature," etc. With upwards of two hundred Illustrations. 12mo, pp. 426. Boston: Gould & Lincoln, 59 Washington street. 1852.

The distinguished author of the above work is one of the most deeply interesting and instructive writers of biblical literature of the present age. His style is easy and natural, his descriptive powers of the highest order, and his narrative striking and graphic. Although not the most extensive, his "History of Palestine" is one of his most popular and instructive volumes, and one that cannot fail to be read with profit, not only by the biblical scholar, but the student in literature, the teacher in the Bible-class and Sabbath-school, and every person interested in the history of the customs, manners, and institutions of the Hebrew nation, from the time of Abraham, through all its various forms and vicissitudes, to the final dispersion of that peculiar people.

This work is one of much labor and research, and was prepared by the author expressly for its present purpose, the whole being illustrated by the results of such acquaintance with Oriental customs as his former residence in the East enabled him to acquire.

As a valuable illustrated compendious history of Palestine and its former people, we think it is not exceeded by any work that we have read, and it deserves a place in every library and Sabbath-school in the country.

America as I found it. By the Mother of MARY LUNDIE DUNCAN. 16mo, pp. 440 New-York: Robert Carter & Brothers, 285 Broadway. 1852.

This is one of the best volumes of "first impressions" of America, its institutions, customs, churches, people, &c., &c., that we have seen. The distinguished writer is favorably known to the public through her former interesting "Memoirs," and the "Children of the Manse." This volume is perhaps more interesting to the general reader, as it is a record of the "unpretending traces of what fell under the every-day experience" of one who "visited America with cordial feeling and ardent expectation," and was not disappointed. She very generously remarks: "A nation so prosperous does not need or condescend to wish for adulation. It is far above flattery; but it demands justice, and in several instances has failed to obtain it from English tourists."

We are decidedly pleased with the familiar and charming tone of the book. The authoress in all instances designs to be "just, candid, and kind;" admiring and blaming with equal simplicity, yet uniformly regardful of the feelings of those for whom she writes, and never offending by even an approach to harshness or invective. Her benevolence, love, and heaven-born charity, are only equalled by her purity and loveliness.

The book is published in the Messrs. Carters' usual beautiful style, and embellished with a striking portrait of the writer; and we need scarcely to remark, that those who

miss an opportunity of supplying themselves with this excellent volume, will have lost a most agreeable pleasure in its perusal.

Hudson River, and the Hudson River Railroad.

This is the title of a neat, convenient, and very interesting illustrated pamphlet of 50 pages, containing a complete map of the Hudson River and vicinity, with the Railroad, and all the villages through which it passes, from the city of New-York to Troy. The map is on a large scale, and every locality is minutely laid down, and all the peculiar features and historical incidents connected with each described with spirit and accuracy. Independent of being a complete *directory* of the whole route, both river and railroad, it is a very agreeable travelling companion, affording much historical and local information in regard to the various points deserving especial notice along the route. It is very neatly embellished with woodcut views of the principal objects of interest upon the line. Published by W. C. Locke & Co., 135 Nassau street, New-York; and Bradbury & Guild, 120 Washington street, Boston.

Manual of the Corporation of the City of New-York, for 1852. By D. T. Valentine. 12mo, pp. 504.

If perseverance in the examination of documents, ancient and recent; if skill in the preparation and arrangement of statistical tables; if conciseness, and at the same time completeness of detail, touching population, finances, schools, religious and political institutions, &c.; if the publication of well drawn maps and charts, illustrating the past as well as the present—the whole well printed, on good paper, and well bound; if all these combined entitle one to be regarded as a successful author, Mr. Valentine may stand in the first rank among his fellows, and demand for this volume a higher meed of praise than can be claimed for most volumes of this description.

A Practical System of Rhetoric, or the Principles and Rules of Style, inferred from examples of Writing; to which is added a Historical Dissertation on English Style. By Samuel P. Newman, Professor of Rhetoric in Bowdoin College. 60th edition. pp. 311. New-York: Mark H. Newman & Co., 199 Broadway. 1851.

Few works reach the sixtieth edition. "All the world" must be mistaken for once if this is not a capital book. But works of this description are used chiefly by the more educated of the community, and hence the verdict in its favor is the more worthy of confidence. We knew the author well when living, and can testify to the respect paid to his virtues and his talents, as well as to his practical skill in teaching. The plan of this work is good, its style easy and clear, and we see not why it should not be printed yet another sixty times.

Lessons in Modern Farming, or Agriculture for Schools: containing Scientific Exercises for Recitation, and Elegant Extracts from Rural Literature, for Academic or Family Reading. By Rev. John L. Blake, D.D., author of Farmer's Every-Day Book, General Biographical Dictionary, and Family Encyclopædia of Useful Knowledge. pp. 432. New-York: Newman & Ivison, 199 Broadway. 1852.

Dr. Blake does every thing well. He is a remarkable man, abounding in the knowledge of men and things; and thus knowing what is needed, is eminently competent to supply the deficiency. This book is exactly what it professes to be. No reasonable man, who has read the title, will be disappointed in its perusal.

Manual of Astronomy, and the Use of the Globes, for Schools and Academies. By Henry Kiddle. New-York: Newman & Ivison, 199 Broadway. 1852.

This little work, of 130 pages, is systematic and lucid, unusually full in problems for the use of globes, and is worthy of attention from teachers and committees.

Arithmetical Tables and Exercises, for Infant Schools. By James B. Thomson, A.M. pp. 96. New-York: Newman & Ivison, 199 Broadway. 1852.

A little work well adapted for those for whom it was designed. It includes processes in what used to be called simple and compound quantities.

EDITORS' JOTTINGS.

THE HARLEM RAILROAD.—About twenty years since, a road was commenced and finally finished to Harlem, a suburb of New-York, distant eight miles from the City Hall. It passed through solid rock of from ten to thirty feet in depth, and, at that early period, was the most expensive in its construction of any road in the Union. At the period of which we write, we believe Harlem was regarded as the terminus of the road for all future time. But "times change, and we change with them." The road subsequently crossed the Harlem river, and made a little progress into Westchester county. A few years witnessed still further progress, and still a little time longer found the road making rapid progress northward along the western boundaries of Connecticut and Massachusetts; when, in February last, the road was opened to ALBANY, 160 miles, and now runs trains daily to and from that ancient Dutch city, and capital of the Empire State! So impossible is it to set bounds to progress in this age of steam! The Harlem Railroad is to the eastern counties of this State, and the western counties of Massachusetts and Connecticut, what the Erie road is to the southern counties of New-York. It opens a means of transport whereby all marketable products can reach the great metropolis of the nation in a few hours; and, in addition, has opened one more route of travel between New-York and Albany.

The travel on the Harlem Railroad is supposed to exceed that of any other road in the world! A train passes over it on an average every twenty minutes during the twenty-four hours of the day; and some idea may be formed of the excellent and careful management observed, from the fact that, on the 4th of July last, seventy-eight long trains passed over Harlem bridge without the occurrence of a single accident.

It was our pleasure recently to pass over this road. Our principal object in doing so was to inspect it, and to give our readers the result of our observations. We can say in all candor, that we saw much to commend, and nothing to condemn. No road in the country of the same width has a better track, or one over which the traveller passes with greater ease. The engines are of the best make, and of the largest class. About a dozen have been put upon the road within a year, as also a large number of substantial and beautiful cars. The company has, with commendable liberality, constructed large and commodious depots at all the stations on the road for the accommodation of passengers, some of which are fine specimens of architecture, taste, and beauty.

As already intimated, the road has had much to contend with, and its final success is owing, in a great measure, to the persevering efforts of GOUVERNEUR MORRIS, Esq., its First Vice-President. Mr. Morris has clung to the enterprise through all its vicissitudes, and at times when many men would have abandoned it to its fate.

We may also mention in this connection MADISON SLOAT, Esq., its experienced and able Superintendent, whose every energy is employed for the advancement of the road, and to whose far-seeing plans it is indebted for the many suburban villages which now so thickly stud it along its pathway. All these villages (and their name is legion) are indebted to Mr. Sloat for their success, he having often made arrangements for the frequent and economical transit of passengers over the road, against the advice and counsel of those whose wisdom many would have regarded as superior to his. The policy of Mr. Sloat has been liberal and well directed, and the public no less than the road are now reaping the advantages of his seasonable efforts.

The conductors are *gentlemen*. Messrs. Woodman, Blacklidge, Marks, Coutant, Jones, Ward, Macy, Kilkpatrick, Edwards, Sharp, McAnana, and all others whose names may have escaped us, are obliging and attentive to their passengers, and faithful to those whose interests they represent. In our recent tour it was our good fortune to ride with Mr. MACY, both in going out and returning. Mr. Macy is a sociable, well-informed gentleman, and relieves travelling of all its tediousness by his frank and engaging conversation. The road passes through several places connected with revolutionary and other interesting associations, which Mr. Macy points out, and on which he converses to the pleasure and gratification of every intelligent traveller. We commend those of our readers who may wish to go to Albany to the special care of Mr. Macy. If at all like us, they will desire to improve the acquaintance by repeating the ride, as we shall do at no distant day.

The success of the Harlem Railroad is no longer an *experiment*, as it was a few years since. It has more cars, more engines, makes more frequent trips, and carries more passengers, than any road of the same

length in the known world. Long may it be as wisely and as prudently managed as it now is, promotiug the prosperity of the rich farming country through which it passes, and adding to the wealth of the two cities with which it is connected.

Fallowing—Mode of Covering a Green Crop, &c.—When a large growth of buckwheat or other green crop is to be turned under, it is often covered but imperfectly. A writer in the *Germantown Telegraph* describes a novel method of doing this work, which may be worth the experiment, for that portion of the crop which is not thoroughly covered will of course be lost to the farmer. This writer says:

"I take a piece of chain of the size of a common trace chain, and of about 22 inches in length, (more or less according to the height of the beam of the plough,) having a swivel in the middle, and, fastening one end of this by means of a hook or leather strap to the underside of the beam of the plough, and about six inches forward of the post of the mould-board, I attach to the other end an iron ball of an oval shape and about three pounds' weight to drag in the furrow immediately before the turning land. By means of this contrivance, the growing crop is prostrated and turned in; and the turning land falling upon it, it is completely buried in the furrow."

The *American Farmer* recommends that, when buckwheat is to be ploughed in, the seed be sown at the rate of a bushel to the acre. He also remarks that "if you have a field that you would like to get in wheat, and clover after it, but which you fear is too poor for the purpose, plough it up, after manuring, sow a bushel of buckwheat per acre on it, and when the buckwheat comes into bloom, plough it in, pulverize it, and you may seed it to wheat with the certainty of its yielding a profitable crop, and of being seeded to clover next spring."

"The Plough, Loom, and Anvil.—The June number is well filled with interesting and profitable reading for the farmer and working man; though we think the space the editor still pertinaciously occupies with the discussion of a topic that belongs properly to the arèna of party politics, might be appropriated to something much better adapted to the tastes and wants of his readers."—*Gaz. and Dem.*

We earnestly desire to secure the approval of our friend of the *Gazette and Democrat*, and would do much that was inconvenient and even laborious to obtain it. But we would humbly ask if we are under obligation to observe silence upon all subjects that are or may be the occasion of political or even of party action? Suppose the Reciprocity Bill, as it is called, will double or quadruple the number of competitors in the home market, in some great section of our country—are our mouths to be shut, and must we acquiesce in silence without a single protest, because demagogues choose to make a party question of it? Shall we be forbidden to inform the millions of producers in our country how and where to find consumers who will buy at remunerating prices, lest we shall offend some party tactitian? Must we withhold our honest convictions, and do hypocritical homage to that policy which throws thousands out of employment, and binds them down to inevitable poverty and want, for fear we may deprive some noisy politician of a seat in Congress or of an office? Such are not our notions, and we can consent to no such restrictions upon our pens. The substantial interests of the country ought to be above party policy, and beyond the reach of party machinery; and we will do our best in opposition to any other rule of action.

Caoutchouc—A New Application.—It is said that Mr. Hodges, an Englishman, proposes to employ this enormous elastic power in the raising of heavy masses. Short pieces of caoutchouc, called by the inventor *power-purchases*, are successively stretched and attached to the burden to be raised; when a sufficient number of these power-purchases is fixed to the weight, their combined elastic force lifts it from the ground. Ten of these apparatus, having individually a power capable of twenty-five kilogrammes, raise together two hundred and fifty kilogrammes. Each bearer is fifteen centimetres long, and weighs about forty grammes of vulcanized caoutchouc. If these ten bearers were stretched to the limit of their elasticity, (which is not that of their power of cohesion,) they would lift three hundred and twenty kilogrammes. This power, though obedient to the common law of mechanical forces, yet differs sufficiently from known forces to be distinguished as a new power. The same principle is applicable to the towing of vessels; it can equally be made use of for raising the anchor, &c.

By an inverse principle, the power-purchases may be employed as a power for projection. Thus a certain number of these agents might be attached to a cannon-tube constructed for throwing harpoons. This application would render important services in the whale fishing. The employment of a cannon charged with powder is imprac-

ticable; because the noise frightens these creatures and makes them fly from it, and the seamen, to throw the harpoon by hand, are obliged, as is known, to proceed in light boats, exposed to great danger. This new process has been tried with success. An eighty-pounder thus charged has thrown a ball one hundred and twenty *metres;* other balls have been thrown two hundred *metres* and more. A bow, constructed on the same principle, and the cord of which only was elastic, threw an arrow of seventy-six centimetres to a distance of one hundred and seventy *metres.*

American Pomological Congress.—In compliance with a resolution passed by the American Pomological Congress, during its session at Cincinnati in October, 1850, it becomes my duty publicly to announce that the next session will be held in the city of Philadelphia, on Monday, the 13th of September, 1852. The Congress will assemble at 10 o'clock A. M., in the Chinese Museum Building, South Ninth street, below Chestnut.

The Pomological, Horticultural, and Agricultural Societies, throughout the United States and Canada, are invited to send such number of Delegates as they may deem expedient. And the Delegates are requested to bring with them specimens of the fruits of their respective districts.

Packages and boxes of fruit for the Congress may be directed to the care of Thomas P. James, Esq., No. 212 Market street, Philadelphia, should the owners be unable to give their personal attendance.

The various State Fruit Committees will, on or before the day of meeting, transmit their several reports to A. J. Downing, Esq., general Chairman of the whole. The Chairman of each State Committee is authorized, where vacancies occur, to fill up the number of his Committee to five members.

W. D. Brinckle, M.D., *President.*
Philadelphia, May 1, 1852.

Great Cattle Sale.—George Vail, Esq., of Troy, N. Y., has sent us a circular of his annual cattle sale, which occurs on the 13th of October next on his farm. The cattle to be sold are Short-Horns, and are supposed to be the best herd of that breed ever offered for sale in America. There are about fourteen head of imported animals and their immediate descendants, bred by Mr. Vail, all possessing the blood in a high degree of the justly famed herd of the late Thomas Bates, Esq., of England. Few sales, probably, of this highly approved breed of cattle are made in England which excel this herd in high blood and quality.

We take great pleasure in calling attention to this sale, and doubt not that many of our readers will avail themselves of the opportunity offered by it to improve the breed of their stock.

Agriculture at the Seat of Government.—Four fifths of the active population of the United States are employed in the cultivation of the soil. Yet in a recent speech in Congress by Hon. E. Newton of Ohio, he says the Agricultural Department of the United States is "*pent up in the cellar of the Patent Office, and cannot be found at mid-day without a candle,*" while despotic Russia boasts an Agricultural Institution with forty college buildings, occupying three thousand acres of land, and attended by several thousand students.

Insane Asylums.—*State Lunatic Hospital, Worcester, Mass.*—The expenditures of this noble institution for the last year were $52,662.48, with a balance in the treasury of $13,910.20. The Superintendant has a corps of 67 assistants engaged in the various duties of the hospital, more than 30 of whom are employed wholly as nurses or constant companions of the insane. Of the admissions during the year, 123 were males, 140 females. The whole number of admissions has been 3861. The whole number in the hospital in course of the year was 704. The number discharged during the year "recovered" is 111, "improved," 38.

Occupation.—Of the above 263, 24 were farmers, 22 laborers, 10 shoemakers. No other occupation was so fully represented. Of the females, 39 were accustomed to *active* employment, and 6 to *sedentary* employment.

A document before us contains the following: The number of lunatics in 8 asylums, at the commencement of the year was 1991; at the close of the year, 2046, Received 1263; discharged, 1208; recovered, 594; improved, 190; unimproved, 198; died, 223; eloped, 3. Total expenditures, $220,597. These asylums are at Brattleboro, Vt., Worcester and S. Boston, Mass., Providence, R. I., Utica, N. Y., Philadelphia and Frankford, Penn., Stanton, Va. New-England has accommodations for 1626 lunatics, New-York, with the same population, for 964 lunatics, and the other States, with a population of about 16,000,000, for 1594.

A new State Asylum has just been occupied in Harrisburg, Penn. Another is in

progress in North Carolina, and another in Alabama. Two are in contemplation in Ohio, in addition to that at Columbus, and other in Western New-York.

Poisons and their Antidotes.—*Arsenic.*—The most valuable antidote for this deadly poison is to take, *immediately*, hydrated peroxide of iron. If this cannot be obtained, emetics should be employed at once, followed by the whites of ten or twelve eggs, taken in new milk, or copious draughts of warm water and sugar. The juice of the sugar-cane, when it can be obtained, is said to be one of the best antidotes to this poison.

Corrosive Sublimate.—The most effectual remedy for this poison is the whites of eggs taken in milk very plentifully. As many as a dozen should be used at once, and the quantity repeated every hour. If vomiting is induced, it is so much the better. When eggs cannot be obtained, use as a substitute flour and lukewarm water in copious draughts. In all cases let the patient take the above in large doses, as the favorable operation is more certain and effectual.

Sulphate of Copper.—This salt is most likely to be taken into the stomach from the careless use of untinned copper vessels in cooking. In this way whole families are sometimes poisoned by it. The antidote is the same as for arsenic—whites of eggs and warm new milk, or warm milk and sugar or molasses.

Sulphate of Zinc.—This very closely resembles *magnesia*, and as such, through mistake, is sometimes taken into the stomach as a medicine. For this poison, use *very large quantities of milk* to decompose the sulphate in the stomach.

Connecticut State Agricultural Society.—A State Agricultural Society was lately organized at New-Haven, Ct. The following are the names of the officers: *President*—Samuel D. Hubbard, of Middletown. *Vice-Presidents*—Charles H. Pond, President New-Haven Co. Agricultural Society; Norman Porter, President Hartford Co. Society; William Alexander, President Windham Co. Society; P. T. Barnum, President Fairfield Co. Society; D. C. Whittlesey, President Litchfield Co. Society; Charles B. Phelps, Greenwoods Society; Charles Hubbard, Middlesex Co. Society. *Corr. Secretary*—Henry A. Dyer, of Brooklyn. *Secretary*—C. W. Elliot, of New-Haven. *Treasurer*—George Brinley, Jr., of Hartford.

Liberia.—The Republic of Liberia comprises some 300,000 inhabitants, of whom about 7,000 may be regarded as civilized. There are more than 2,000 communicants in the Christian churches, and more than 1,500 children in the Sabbath schools, and more than 1,200 in the day schools.

Observations during a Short Tour.—A short ride into the country a few days since, in the counties of Westchester, Putnam, and Dutchess, gave us an opportunity of noticing the crops in the localities through which we passed. The late severe drought has left its impress very visibly upon grass, corn, oats, and other crops likely to be affected by a want of rain. We should think the crops of grain would fall short of an average, while the hay crop will be very light. As the counties named are mostly devoted to grazing, the inhabitants will feel very sensibly the influences of the drought for the remainder of the season.

The Crops.—It is to us very gratifying to hear, from all sections of the country, the most hopeful and cheering accounts of the growing crops. After two years of unexampled drouth, the return of favorable "seasons" should be a cause of joy and thankfulness to our entire population; and should give us renewed faith and confidence in Him "who doeth all things well."—*Southern Cultivator.*

Cure for Hydrophobia.—The following is said to be an effectual remedy for this dreadful malady; and although we cannot vouch for its efficacy in all cases, it is certainly worth the trial, either as a cure for hydrophobia or poison from the bite of a reptile, particularly as its virtues are so well attested by one who has so signally experienced its benefits. It consists in the simple decoction of the bark of the *root* of the common upland ash, generally called black ash, boiled down strong, and drank freely by the sufferer for several days.

Mr. James A. Hubbard, in a letter to the *St. Louis Republican*, speaking of its virtues, remarks:

"Eighteen years ago my brother and myself were bitten by a mad dog. A sheep was also bitten at the same time. A friend suggested the above remedy, which, he said, would cure the bite of a rattlesnake, and while my father was preparing it the sheep spoken of began to be afflicted with hydrophobia. When it had become so fatigued from its distracted state as to be no longer able to stand, my father drenched it with a pint of the ash-root dose, to ascertain whether he could depend upon it as a cure for his sons. Four hours after the drench had

been given, to the astonishment of all, the animal got up, and went quietly with the flock to grazing. My brother and myself continued to take the medicine for eight or ten days—one gill three times a day. No effects of the dreadful poison were ever discovered on either of us. It has been used very successfully in snake bites to my knowledge."

Cost of Manure.—It is said that the amount of guano annually used in Great Britain, for the last five years, has cost two million pounds sterling, or about ten millions of dollars—more than equal, yearly, to the cost of the Erie Canal till its first completion.

Beet Sugar in Mormondom.—An English company has taken out a full equipment of machinery for the manufacture of beet sugar in Utah. It is said the country is well adapted to the growth of the sugar beet, and large quantities of seed had been sent previously.

The Pie Plant.—A correspondent of the *Indiana Farmer* expresses the opinion, based upon experiment, that the use of ashes for the pie plant produces a more delicious plant than any mode of culture—not being sour, but just containing enough acidity to make them pleasant.

Gov. Hammond, of South Carolina, estimates the present capacity of the slave-holding States as equal to the support of 200,000,000 of inhabitants. To give Virginia as dense a population as Belgium has, (which exports far more of human food than Virginia does,) would require all the people now in the United States to reside in the "Ancient Dominion."

Seventeen Year Locusts.—As was predicted last year, the seventeen year locusts have made their appearance in Connecticut. In 1818, and in 1835, their presence on a lot of land about 50 rods square, some three miles from the North Glastenbury post-office, is chronicled. The woods on that spot are now alive with their music.

Strawberries.—Jason Heritage, of Burlington county, New-Jersey, says an acre and a half of ground, planted with straw berries, will this year yield him, clear, $1000. Five hundred quarts were taken from the vines at one picking, on a little less than a quarter of an acre of land, which, at 50 cents a quart, yield $250.

Devonshire Cream.—The clouted cream of Devonshire is prepared by straining the new milk into a shallow dish, into which a little warm water has been previously put; and after allowing it to stand from 6 to 12 hours, it is carefully heated over a slow fire or hot plate till the milk approaches to the boiling point; but it must not actually boil, or the skin of cream will be broken. The dish is then removed to the dairy, and the cream allowed to cool, when it may be used as cream or made into butter.

Milk varies so much in richness, that while a pound of butter has been made from seven quarts of the richest milk, it takes nineteen or twenty quarts of the poorest to make a pound of butter.

There is a farm in Standish, Maine, consisting of eight acres, including yards, buildings, &c., from which were gathered, last fall, 1,750 bushels of apples.

Progress in Massachusetts.—Legislative documents exhibit the following as the "valuation of the property and polls" within the State at the times specified:

1820, - - - -	$153,694,267
1830, - - - -	208,360,408
1840, - - - -	299,878,329
1850, about - -	598,000,000

Timber Trade of Quebec.—The amount of timber exported from Quebec to Great Britain, in 1850, was 22,128,203 cubic feet; in 1851, it was 23,951,393. Three-fourths of all received at Quebec is White Pine. The balance is Red Pine, Oak, Elm, Tamarac and Spruce.

Linen Goods.—We learn that N. B. Borden, Esq., of Fall River, and others, are erecting, in that busy village, a mill for the manufacture of linen fabrics. It will be the first of the kind built in the United States.

In Yarmouth, a pig has been detected sucking a cow. It is suggested that this must be of the family of the learned pigs.

TOPICS OF THE PRESS.

FRUITS AND FLOWERS AMONG THE FRENCH.—An exchange paper says, the culture of roses in France affords a branch of trade by no means unimportant. As early as 1770 the number of rose stocks exported was large, and the trade has increased, until now the income of the Department of the Seine alone from this source is estimated at a million of francs. The exportation to England, Germany, Russia, and North America is large and important. At least 100,000 stocks are annually sold in the Paris flower market, and ungrafted plants to the number of 150,000, and an annual average of grafted plants for exportation of 800,000. Besides the roses, flowers to the amount of 4,000,000 of francs are annually sold in these markets, besides those which are used in public and private festivals. Paris consumes annually strawberries to the amount of 5,000,000f., to the raising of which fruit 1,250 acres of land are devoted in the Department of the Seine alone. Epinay, near St. Denis, sends daily, during the season, 500 francs' worth of asparagus to England. and Meudon, plums to the like amount; Harfleur exported, last year, 100,000 francs. worth of muskmelons to London. Melons throughout France are very profitably cultivated. French muskmelons are sent even to the Senegal, and to the United States.

LONGEVITY OF THE HORSE.—The editor of the *American Veterinary Journal* says, that it has long been the impression that the ordinary duration of a horse's life is much shorter than it ought to be, and that the excess of mortality is the result of carelessness or ignorant management. The great error consists in regarding the temperament and general constitution of a horse as altogether different from those of a human being, whereas they are precisely the same in all important respects. Disease arising from excessive fatigue, overheating, and exposure to air, want of exercise, improper diet both as respects quality and quantity, and from many other causes, affects the horse and his master alike, and neglect in either case must terminate fatally. Indeed, when a man or horse has acquired, by a course of training, a high degree of health and vigor, the skin of each is an infallible index of the fact.

It has been often remarked in England, that the skin of the pugilist, who has undergone a severe course of training, when he prepares himself for the fight, exhibits a degree of beauty and exceeding fairness that excites the admiration as well as the wonder of the spectators. So with the horse: his skin is the clearest evidence of the general state of his health. Even the common disease of foundering is not peculiar to the horse, but is a muscular affection, to which many men, who have overstrained themselves at any period, are subject. In fact, the medical treatment of the horse and his rider ought to be the same; and we confidently believe that if this principle was acted upon with a moderate share of attention and resolution, the average life of this useful animal would be much longer, and the profit derived from his labors proportionately greater.

WASH FOR APPLE TREES.—The *Mass. Ploughman* says, that all the orchardists who applied for premiums last year in Middlesex Co., who washed with ley, state that the borer has not troubled them. One of them, Caleb Wight of Westford, does not wash with ley. He says, "I wash my trees with lime, clay, salt, and green manure, *which I think is better than potash.*"

Now mark how Mr. Wight gets rid of the borer. He says, "The insect that most troubles me is *the borer*, and what I use to get rid of them is the mallet and gouge!" We pity the man who is forced to resort to this antiquated method to cut out worms that would never be found in the tree that is washed with ley.

We should much prefer to let the borer remain in the trees rather than trust to the nicest gouger to dig for them. They come out of their own accord the third year, turn to flies and die, as silk-worms do. By washing the trees the flies are kept away and lay no eggs there. And when they have laid their eggs at the root of the tree, the ley destroys them.

It ought to be applied in June before the flies begin to lay their eggs. But July will answer, when you intend to kill the eggs that have been laid. We have never known this fly to lay her eggs in any month but July. One pound of potash will make one gallon of ley strong enough for trees.

IRON.—The *People's Advocate*, of Reading, Pa., says: "It appears to be not generally known to what an immense extent the manufacture of this metal is carried on in this State. Pennsylvania now produces as much iron as was manufactured in all Great Britain thirty years ago. Compared to the

present manufacture of the article in France, that of Pennsylvania is at least equal; it is more than Russia and Sweden united; and exceeds that of all Germany. Pennsylvania may well be called the Iron State of the Union; and from these mineral treasures she must build up a prosperity more splendid and permanent than if wrought from gold, for gold is the ultimate product of her iron."

AGRICULTURAL FAIRS.—We publish below a table of the times of holding sundry Agricultural Fairs, in the different States and counties, which includes all we have noticed, not already published:

NATIONAL.

AMERICAN INSTITUTE, NEW-YORK.—Exhibition opens at Castle Garden, Oct. 5. Cattle Show, Oct. 19, 20, 21.

American Pomological Congress, at Philadelphia,	Oct.	13

STATE FAIRS.

New-York, at Utica,	Sept.	7, 8, 9, 10
Ohio, at Cleveland,	"	15, 16, 17
Michigan, at Detroit,	"	22, 23, 24
Canada West, at Toronto,	"	21, 22, 23, 24
Vermont, at Rutland,	"	1, 2, 3
Pennsylvania,	Oct.	20, 21, 22
Wisconsin, at Milwaukee,	"	6, 7, 8
Georgia,	"	18 to 23
Maryland, at Baltimore,	"	26, 27, 28, 29
Indiana, at ——,	Oct.	19
Wisconson, at Milwaukee,	"	6, 7, 8
Rhode Island Society of Improvement, at Providence,	Sept.	15, 16, 17
New-England Society for Improvement of Poultry, at Boston,	"	7, 8, 9, 10
New-Hampshire, at ——,	Oct.	6, 7, 8
Kentucky Agricultural and Mechanical Association, at Lexington,	Sept.	14
Texas, at Corpus Christi,	first week in May.	

COUNTY SHOWS.—NEW-YORK.

Cortland, at Cortland,	Sept.	15, 16
Clinton, at Keeseville,	Sept.	22, 23, 24
Chemung, at Horseheads,	"	29, 30
Columbia, at Chatham 4 Corners,	"	29, 30
Cayuga, at Auburn,	Oct.	6, 7
Dutchess, at Washington Hollow,	"	5, 6
Essex, at ——,	Sept.	20, 21, 22
Genesee, at Batavia,	Oct.	6, 7
Greene, at Cairo,	Sept.	21, 22
Herkimer, at Herkimer,	"	28, 29
Jefferson, at Watertown,	"	16, 17
Madison, at Eaton,	"	22, 23
Monroe, at Rochester,	"	29, 30
Otsego, at Morris,	"	22, 23
Orleans, at Albion,	"	23, 24
Ontario, at Canandaigua,	"	29, 30
Putnam, at Carmel,	Oct.	5, 6
Rensselaer, at Troy,	Sept.	22, 23, 24
Saratoga, at Mechanicsville,	"	15, 16, 17
Suffolk, at Huntington,	"	22
Seneca, at Waterloo,	Oct.	14, 15
Wayne—this county holds two fairs; one at Wolcot,	Sept.	21, 22
The other at Palmyra,	"	28, 29
Wyoming, at Warsaw,	Sept.	22, 23

NEW-HAMPSHIRE.

Hillsboro', N. H., at Nashua & Nashville,	Sept.	29, 30

MASSACHUSETTS.

Berkshire, Pittsfield,	Oct.	6, 7

CONNECTICUT.

Middlesex, Middletown,	Oct.	6, 7, 8
Windham,	Sept.	29

VERMONT.

Franklin, St. Albans,	Sept.	8, 9
Windham, Fayetteville,	"	15, 16

NEW-JERSEY.

Burlington, Mount Holly,	Oct.	

PENNSYLVANIA.

Alleghany, at ——,	Oct.	6
Berks, Reading,	"	1
Bucks, Newtown,	"	7, 8
Montgomery, Norristown.		
Philadelphia, near Philadelphia,	Sept. 30 and Oct.	1
Susquehanna, Montrose,	Oct.	6
Northumberland, at Northumberland,	"	7, 8

OHIO.

Mahoning, Ohio, at ————,	"	5, 6
Cuyahoga, Cleveland,	"	6, 7

MICHIGAN.

Lenawee, Adrian,	Oct.	6, 7

TRICKS OF ANIMALS.—In breaking or managing a horse, however intractable or stubborn his temper may be, preserve your own. Almost every fault the brute has, arises from ignorance. Be patient with him; teach and coax him, and success in time is certain. There are tricks, however, which are the result of confirmed habit or viciousness, and these sometimes require a different treatment. A horse accustomed to starting and running away may be effectually cured by putting him to the top of his speed on such occasions, and running till pretty thoroughly exhausted.

A horse that had a trick of pulling his bridle and breaking it, was at last reduced to better habits by tying him tightly to a stake driven on the bank of a steep stream, with his tail pointing to the water; he commenced pulling at the halter, which suddenly parted; over the bank he tumbled, and, after a somerset or two, and floundering awhile in the water, he was satisfied to remain at his post in future, and break no more bridles.

A ram has been cured of butting at every thing and every body, by placing an unresisting effigy in a similar position; the sudden assault on a wintry day then resulted in tumbling his ramship into a cold bath, which his improved manner took good care to avoid in future.

A sheep-killing dog has been made too much ashamed ever again to look a sheep in the face, by tying his hind leg to a stout ram on the brow of a hill, while the flock were quietly feeding at the bottom. The ram being free, and in haste to rejoin his friends, tumbled and thumped Master Tray so sadly over the stones and gullies, that he was quite satisfied to confine himself to cooked mutton thereafter.—*American Agriculturist.*

HOW TO MAKE BACON PLENTY.—A writer in the *Southern Cultivator* says: "In the first place, every planter should raise a sufficient quantity of corn, and never be under the necessity of buying; then, if possible, inclose enough land to keep his hogs in, and not permit them to run at large, to become wild, or be killed up by his neighbors' negroes. In the next place, make a boiler as follows: Get two planks, each ten feet long, two and a half feet wide, and two inches thick; then make the bottom and ends of sheet iron, by nailing it on the planks; set this boiler on two rows of bricks, about one foot high from the ground, with a chimney for a flue. This boiler can be heated with a very small quantity of wood. Into this boiler put your corn, cotton seed, pumpkins, peas, cabbage leaves, turnips, potatoes, kitchen slop, and every thing that a hog will eat, and boil them together, every day, occasionally throwing in a little salt and ashes, and have several troughs close by the boiler, and feed your hogs every night with this food; and my word for it, we shall soon be able to be exporters, instead of importers, of bacon and pork.

"The same quantity of food given to hogs cooked as above will raise and keep fat three times as many as when given to them in the ordinary raw state."

THE RUTABAGA.—Among the many root crops that can be cultivated with profit at the South, scarcely one surpasses the Rutabaga; and yet, strange to say, it is as yet but little known or appreciated. It is altogether richer than the common turnip, containing considerable saccharine matter, and is considered in England (from whence we get the seed) the *ne plus ultra* of all the turnip tribe. Its perfect adaptation to the South is now placed beyond all dispute, although it is not inclined to seed in this climate; consequently, the only safe means to secure a good crop is annually to provide fresh seed. The seed may be sown through all this and the next month. One of the greatest difficulties in raising rutabagas is in cultivating them too thick. They should be sown in drills, two feet apart, and thinned out to twelve inches in the drill. Cultivated in this manner, their tops will form one vast, dense mass of foliage. The top yields as much as the same amount of land in col-

lards, and the bottom will out-yield any crop that we are acquainted with in this country; and very few surpass it for nutriment in sustaining animal life. Look to it in season, that you get a good PATCH.—*Soil of the South.*

MOISTURE BY DEEP PLOUGHING.—P. Morris says, in the *Farm Journal*, that he broke up a stiff sod for corn with a heavy plough drawn by four oxen. A subsoil plough followed, running down six or seven inches deeper. The whole work was so thoroughly performed, that a stick could be thrust down into the loose earth, in almost any part of the field, to a depth of fifteen inches. The summer was excessively dry, pastures were burnt and bare, and tillage crops suffered severely. But the corn on the subsoiled land continued green and luxuriant throughout the season.

GREAT YIELD OF HAY.—One of the handsomest residences, with one of the best, if not the best mowing lot in this State connected with it, is owned by H. W. Clapp, Esq., of this town. It is at the east end of Main street, fronting on Main, Franklin, Church, and High streets. It was accurately surveyed in 1845 by Osias Roberts, Esq., and found to contain eight acres and one hundred and fourteen rods. The buildings, pleasure grounds, and garden occupy one acre and fourteen rods, leaving in the mowing lot seven acres and one hundred rods. On Monday last Mr. Clapp, with a large number of men, commenced cutting the grass on the mowing lot, and cut and housed it all last week, in beautiful order. On weighing the hay, the product of the seven acres and one hundred rods was found to be *twenty-nine tons, four hundred and twenty-seven pounds; or over four tons to the acre.* If there is another lot in the State that will produce this amount of hay, we should like to hea. 1of it. The hay was all of the best quality.—*Corrector* (*Long Island.*)

GROWTH OF WOOD.—An exchange paper says:—The season of the year in which forests are cut off is believed to have an influence on the succeeding growth. To give some test of this matter, the Plymouth County (Mass.) Agricultural Society offered several premiums. A report was made last year, which set forth the conclusion that the nearer the season of the ascending sap (spring) wood is cut, the more flourishing will be its succeediug growth. The person who received the premium for this experiment, states that he is satisfied the nearer the ground the wood is cut, the better; the shoots will start and grow more thriftily, and are thicker, and are less liable to be split down. By cutting wood often, you insure not only the greatest growth of wood, but the greatest growth of money. Cattle should never be suffered to run on a wood lot while the trees are small.

GOOD BREAD.—Mr. Weed writes to the *Albany Evening Journal:*

"We could learn one lesson from Austria with great advantage to our people. This is the art of making good bread, which, being as it is here universal, is really a great national blessing. We were struck first at Trieste with the fine quality of bread at our hotel. At all the eating-houses between Trieste and Vienna we remarked the excellence of the bread. Here we enjoy the same luxury. Nor is it a luxury for the rich alone. The same light, sweet bread is in all the bake-shops at prices which enable all classes to purchase. England has contrived, humanely, to give 'cheap bread' to her people, but Austria affords it still cheaper, and of an excellent quality. I do not know that this secret for making good bread can be communicated. Perhaps it is owing to some peculiarity in the flour, or in the water; but I do know that the art of making for the American people such bread as is eaten throughout Austria would be an acquisition of incalculable value. A Vienna baker who should go to the city of New-York and vend such bread as we get here, would be able to ride in his coach and reside on the Fifth Avenue in two years; that is, providing the Yankee bakers did not find out his secret."

AN EXPERIMENT WITH GUANO.—The *Middlesex Farmer* says that Mr. Nathaniel Holden, of Shirley, states that he had on his farm some land, good for nothing as he supposed but to hold the world together, but hearing of the good effects of guano, he determined to try the experiment with the article on it. He added guano and plaster of Paris in equal quantities, and put one spoonful in each hill of corn, mixing it well with the loam. The result was 70 bushels of shelled corn to two acres of the land. So well encouraged is he with his first experiment, that he will continue to use the article.

THE census returns of the Territory of New-Mexico give 61,574 inhabitants, 6,715 farms, 1,157 deaths in a year, 20 manufacturing establishments built subsequent to General Kearney's invasion. One family consisted of father, mother, and 24 children, all living together. The principal diseases are fever and erysipelas.

ADVERTISING DEPARTMENT OF THE PLOUGH, THE LOOM, AND THE ANVIL

Advertisements of a proper character will be inserted according to the rates expressed in the Table herewith subjoined. An Index of the BUSINESS ADVERTISED, and the NAMES OF ADVERTISERS, appears under the Table of Contents on the second page of the cover, thus presenting peculiar inducements to advertisers.

RATES OF ADVERTISING.

Space Occupied.	One Month	Two Months	Three Months	Six Months	One Year.
One square of 12 lines....	$1 50	$3 00	$4 00	$7 00	$12 00
Two squares of 24 "	3 00	5 00	7 00	12 00	20 00
Three " of 36 "	4 00	7 00	10 00	15 00	25 00
One fourth of a page.....	5 00	8 00	12 00	20 00	32 00
One half of a page.....	10 00	15 00	20 00	30 00	50 00
One whole page.....	20 00	30 00	40 00	60 00	100 00

A square consists of TWELVE LINES of single width columns. The foregoing table, with these remarks, makes one square.

TO ALL

Agriculturists, Horticulturists, & Florists.

The following valuable Books have just been published by

JOHN P. JEWETT & CO.,

17 & 19 CORNHILL,

BOSTON.

BRECK'S BOOK OF FLOWERS, being a complete guide to the cultivation of a Flower Garden; by Joseph Breck, Esq. Price 75 cents.

SCHENCK'S KITCHEN GARDENER'S TEXT BOOK.—A thorough work on the management of the Kitchen Garden; by Peter A. Schenck. Price 50 cents.

A TREATISE ON HOT HOUSES; Their Construction, Heating, and Ventilation; by R. B. Lenchars, Esq. Price $1.00.

COLE'S AMERICAN VETERINARIAN, or Complete Farrier; by S. W. Cole. Price 50 cets.

COLE'S AMERICAN FRUIT BOOK, or Complete Orchardist; by S. W. Cole. Price 50 cents. 48,000 Copies of Mr. Cole's two excellent books have been already published. The above valuable books are for sale by the principal booksellers throughout the country. 500 Agents wanted to sell the above in every State in the Union. Address, (post paid,) the publishers. jy.tf

Massachusetts Horticultural Seed Store,

38 SCHOOL ST., BOSTON,

AZELL BOWDITCH, PROPRIETOR.

Just received at this well-known establishment, a large assortment of

GARDENING IMPLEMENTS,

Comprising—Shears for trimming hedges, and for trimming trees; Knives of various patterns, for pruning, budding, &c., &c.; Peach Pruners; Flower Scissors, &c, &c.

Also a large assortment of Perennial and Biennial Flower Seeds.

Garden Vases of various styles, Chimney Cans, &c.
Horticultural and Agricultural Books.
Bouquets, Cut-flowers, and fruit furnished at short notice. jy.

GREAT BARGAINS IN PIANOS.

PERSONS in want of Pianos are invited to examine our large assortment of instruments, which will be sold or let on the most reasonable terms. The Subscribers are the sole agents for the celebrated Boston houses, Hallett & Allen, A. W. Ladd, Woodward & Brown, and W. P. Emerson. Also in store, a good assortment of New-York Pianos. The great variety from which persons can here select, will enable them to procure a Piano that cannot fail to suit. Persons wishing a good Piano at a low price, will find it advantageous to call and examine. Pianos tuned.

SAFFORD & BROTHER,

jy. 369 Broadway, New-York

C. J. GAYLER'S

SALAMANDER SAFES.

Depot, No. 90 JOHN STREET, Corner of Gold,

LATE OF 128 WATER STREET, NEW-YORK.

Gayler's Double Flange Salamander Safes possess more security against fire than those of any other maker.

The many severe tests to which they have been subjected, and recently in the great fires at Buffalo, Syracuse, Corning, St. Louis and San Francisco, have proved them to be fire-proof beyond all doubt. In every instance they have preserved their contents uninjured when exposed to fire.

Gayler's Safes are furnished with his improved Detector Lock, the reputation of which is fully established. For additional security against the application of Gunpowder, he has recently introduced his Patent Combination POWDER-PROOF KEY-HOLE COVER. He has also lately introduced a NEW LOCK, which affords as full security against Pick-locks, False Keys and Gunpowder, as any other American Lock now known, *not excepting those exhibited at the* WORLD'S FAIR, the price of which is much below that of any other Lock now applied for extra security.

☞ Salamander Safes, of all sizes, suitable for Merchants, Bankers, Jewelers, Lawyers, Dwelling houses, Steamboats, &c., on hand and for sale as above. April

Philadelphia, Wilmington and Baltimore Railroad.

Four Daily Lines between Philadelphia and Baltimore.

FARE $3.10.—A reduction of 10 cents made to those purchasing tickets at the office.

PHILADELPHIA, WILMINGTON, AND BALTIMORE RAILROAD LINES, at 8.15, 1.45, 3, and 10.15.

On and after Thursday, April 1st, the Mail Lines for Baltimore will leave the Depot, 11th and Market streets, as follows, viz.:

MORNING LINE at 8 1-4 o'clock, daily, except Sunday, through in 5 1-2 hours, stopping at all the regular way stations on the road.

AFTERNOON EXPRESS LINE at 1 3-4 P. M., daily, except Sunday. Through in 4 1-2 hours—stopping only at Chester, Wilmington, Elkton, and Havre de Grace.

NIGHT LINE at 10 1-4 P. M., daily; through in 5 1-2 hours, stops at the principal stations on the Road.

The trains leave Baltimore for Philadelphia, as follows:—Express train at 8 1-2 A. M., and Mail trains at 11 A. M., and 6 1-2 P. M.

NEWCASTLE AND FRENCHTOWN LINE AT 3 P. M.

The Steamboat Robert Morris will leave Dock st. Wharf daily, except Sunday, at 3 P. M. This line leaves Baltimore for Philadelphia from Bowly's Wharf at 6 1-2 A. M.

Fare by this Line, . . $2,50 Forward Deck . . $1,50

Charleston, S. C., Wheeling, Va., Pittsburg, Pa., and Washington, D. C.—Tickets through to these points can be procured at the Depot, Philadelphia. Fare to Charleston, $19; Wheeling, $11; Pittsburg, $10; Washington, $4.80.

WILMINGTON ACCOMMODATION TRAINS.—The Accommodation trains stopping at all intermediate places between Philadelphia and Wilmington, will run as follows: Leave Philadelphia from Depot, 11th and Market streets, at 11 A. M., 4 and 7.15 P. M. Leave Wilmington at 6 A. M., (Market train) 7.15 A. M., and P. M.; and Freight Train at 7 P. M., with Market Car attached.

The Mail Trains leave Wilmington at 11 A. M., 3 and 10 P. M.

Fare to Wilmington, 50 cents. To Chester, 25 cents.

Excursion tickets to Wilmington, good to return by any train same day, 75 cents.

Tickets for all Trains must be procured at the office before taking seats in the cars.

BAGGAGE NOTICE.—100 pounds baggage allowed each passenger, and the Company holds itself responsible only for the loss of wearing apparel, to the value of $100.

Any one wishing to send a trunk or parcel by Mail Trains can do so only on application at the office and paying freight on the same. H. H. HUDDELL, Agent.

Hudson River Railroad.---New-York to and from Albany and Troy.

REDUCTION OF FARES.—Through Fares $1.50 between Albany and New-York, on all Trains. On and after Monday, June 14th, the Trains will run as follows:—

Going North.

Leave New-York, from the Office, corner Chambers street and College Place, at

6 A. M. Express Train for Albany and Troy, connecting with Western Train, stopping only at Peekskill, Fishkill, Poughkeepsie, Rhinebeck and Hudson. Through in 4 hours, from 31st street.

7 A. M. To Peekskill, stopping at all way stations.

8 A. M. Way Mail Train for Albany and Troy, stopping only at Manhattan, Dobb's Ferry, Sing Sing, Peekskill, and all Mail Stations North.

9 A. M. To Peekskill, stopping at all stations.

11.30 A. M. Passenger and Freight Train to Poughkeepsie, stopping at all Stations.

1 P. M. Way Train for Albany and Troy, stopping at Yonkers, Tarrytown, Peekskill, Cold Spring, Fishkill, New Hamburgh, Poughkeepsie, Rhinebeck, Tivoli, Oakhill, Hudson, and Stuyvesant, and connecting with the Express Train leaving Albany at 6 30 for Buffalo.

4 P. M. Way Train, to Albany and Troy, stopping at Yonkers, Dobbs' Ferry, Dearman, Tarrytown, Sing Sing, Cruger's, Peekskill, Garrison's, Cold Spring, Fishkill, New Hamburgh, Poughkeepsie, and all stations north, on signal.

4.30 P. M. To Poughkeepsie, stopping at all way stations.

6 P. M. Express Train for Albany and Troy, stopping only at Peekskill, Fishkill, Poughkeepsie, Rhinebeck, Hudson and Stuyvesant. Through in 4 hours from 31st street, and connecting with Western Trains.

6.15 P. M. To Peekskill, stopping at all way stations.

7.30 P. M. Emigrant and Freight Train for Albany and Troy, stopping at all way stations.

Poughkeepsie to Albany; leave Poughkeepsie at 6.15 A. M., stopping at all way stations.

Going South.

Leave Troy Engine Station at 5.45 A. M., and Albany at 6 A. M. Way Mail Train for New-York, stopping at all stations where there are Mails to be received and delivered.

Leave Troy Engine Station at 6.45 A. M., and Albany at 7 A. M. Express Train for New-York, stopping only at Hudson, Rhinebeck, Poughkeepsie, Fishkill, Cold Spring and Peekskill. Through in 4 hours.

Leave Troy Engine Station at 10.45 A. M., and Albany at 11 A. M. Way Train, stopping at Stuyvesant, Hudson, Oakhill, Tivoli, Barrytown, Rhinebeck, Hyde Park, Poughkeepsie, Fishkill, Cold Spring, Peekskill, Cruger's, Sing Sing, and Dobbs' Ferry.

Leave Troy Engine Station at 3 20 P. M., and Albany at 4 P. M. Way Train, stopping at Stuyvesant, Hudson, Oakhill, Tivoli, Barrytown, Rhinebeck, Hyde Park, Poughkeepsie, New Hamburgh, Fishkill, Cold Spring, Garrisons', Peekskill, Sing Sing, Tarrytown, and Yonkers.

Leave Albany at 4.30 P. M., for Poughkeepsie only, stopping at all way stations.

Leave Troy Engine Station at 6 P. M., and Albany at 6.15 P. M. Express Train, stopping only at Hudson, Rhinebeck, Poughkeepsie, Fishkill, and Peekskill. Through in 4 hours.

Leave Troy Engine Station at 8.30 P. M., and Albany at 8.45 P. M. Night Mail Train, stopping at all stations on signal.

LEAVE POUGHKEEPSIE FOR NEW-YORK.

At 6.45 A. M., stopping at all stations above Peekskill, and at Cruger's, Sing Sing, Tarrytown, Dearman, Dobbs' Ferry Hastings, Yonkers, and Manhattan.

8.45 P. M., Milk and Freight Train, stopping at all Way Stations.

LEAVE PEEKSKILL FOR NEW-YORK,

At 5.50 and 6.30 A. M., and 4 P. M., stopping at all way stations. ☞ Passengers will procure tickets before entering the cars. Tickets purchased after entering the cars will be 5 cents extra. GEORGE STARK, Superintendent.

New-York, June 14, 1852.

New-York and Erie Railroad.—Summer Arrangement.

TRAINS run as follows:—Leave New-York from foot of Duane street, daily, as follows:—

1. Day Express Train, at 6.30 A. M., (Sundays excepted,) for Dunkirk, there connecting without delay, with first class steamers for Cleveland, running in connection with the Express Train for Cincinnati; and with first class steamers for Toledo and Monroe, running in connection with the Michigan Southern Railroad. (Dinner at Deposit, and supper at Hornellsville.) Passengers by this train take the Canandaigua Railroad at Elmira, and arrive at Rochester and Buffalo the same evening.

2. Mail Train at 8, A.M., (Sundays excepted,) stopping at all the stations. This train remains over night at Elmira, and goes on next morning at 7.30, arriving at Dunkirk at 4.55 P. M. (Dinner at Narrowsburgh.)

3. Way Train, at 3 P. M., (Sundays excepted,) for Piermont and Suffern.

4. Way Train, at 4.45 P. M., (Sundays excepted,) for Suffern and Otisville.

5. Evening Express Train, at 6 P. M. for Dunkirk, there connecting with first class steamers for Detroit direct; and also for Erie, Ashtabula, Cleveland, Sandusky, Toledo, and Monroe. On Saturdays this train runs only to Elmira. (Supper at Turner's. Breakfast at Hornellsville.)

6. Emigrant train at 6 P. M., (Sundays excepted,) for Dunkirk.

TRAINS TO NEW-YORK.

1. Day Express Train leaves Dunkirk at 6 A. M., (Sundays excepted,) and arrives in New-York the same evening. Passengers from Buffalo and Rochester take this train at Canandaigua.

2. Way Train leaves Otisville at 6.15 A. M., (Sundays excepted.)

3. Mail Train leaves Elmira at 8 A. M., (Sundays excepted,) stopping at all the stations, and arriving in New-York same evening.

4. Mail Train leaves Dunkirk at 9.30 A. M., (Sundays excepted,) stopping at Elmira over night.

5. Accommodation Train leaves Dunkirk at 1.30 P. M., (Saturdays and Sundays excepted.)

6. Evening Express train, leaves Dunkirk at 5 P. M. Passengers from Buffalo and Rochester take this train at Canandaigua at 9.30 P. M.

NEWBURGH BRANCH.

Trains run daily, (Sundays excepted,) as follows:—

Leaving Newburgh at 7.45 A. M., and 3.55 P. M. Leave Chester at 9.55 A. M., and 7.10 P. M.

FREIGHT TRAINS.

Freight Trains leave from foot of Duane street, at 6 P. M., for all stations on the road, and for Canandaigua, Rochester, Buffalo, and all the Western States.

CHARLES MINOT, Superintendent.

For Boston, Via Newport and Fall River.

By the splendid and superior steamers EMPIRE STATE and BAY STATE, of great strength and speed, particularly adapted to the navigation of Long Island Sound, running in connection with the Fall River and Old Colony Railroad, a distance of 53 miles to Boston only.

Leave pier No. 3, North River, near the Battery.

The steamer BAY STATE, Captain William Brown, on Mondays, Wednesdays, and Fridays, at 5 o'clock, P. M.

The steamer EMPIRE STATE, Captain Benj. Brayton, on Tuesdays, Thursdays, and Saturdays, at 5 o'clock, P. M.

This Line is the only one that runs direct from Newport.

These steamers are fitted with commodious state rooms, and every arrangement for the security and comfort of passengers, who are afforded by this route a night's rest on board, and on the arrival at Fall River proceed per railroad, reaching Boston early the following morning; or can remain on board until after breakfast, and leave Fall River at a quarter past 6 o'clock, A. M., by the accommodation train, which arrives in Boston at a quarter before 9 o'clock, A. M.

The rates for passage and the price of state rooms, the same as by the other lines.

A steamboat runs in connection with this line to and from Providence, daily, except Sundays.

Fare from New-York through to Providence, Fall River, or Newport, $3. To New-Bedford, fare $3 60.

Freight to Boston is taken at the same rates as by the other regular lines, and forwarded with greater expedition by an Express freight train, which leaves Fall River every morning (Sundays excepted) at 7¾ o'clock, for Boston and New-Bedford, arriving at its destination at or about 11, A. M.

For freight or passage, apply on board, or at the office on Pier 3, North River. For state rooms or berths, apply on board; or if it is desired to secure them ahead, application may be made to TISDALE & BORDEN, Agents, 70 and 71 West street.

Camden and Amboy Railroad for Philadelphia.

From Pier No. 1, North River, foot of Battery-place, by Steamboat John Potter. Two lines daily. Morning Line leaves at 7 A. M.; Afternoon Express Line at 2 P. M., through to Philadelphia in 4 1-2 hours. Fares: 1st class cars, $3; 2d class line, by 2 T. M., only $2. Returning, leave Philadelphia from foot of Walnut st., at 8 A. M., and 2 P. M. Emigrant Line by steamboat Transport, from Pier No. 1, at 5 P. M. Fare, $1,50.

FROM PHILADELPAIA FOR NEW-YORK,

AND INTERMEDIATE PLACES.—Through in 4½ hours.

At 8 o'clock A. M. and 2 o'clock, P. M., from Walnut street Wharf.

FARE, $3. Second Class at 8 A. M., only $2.

Returning, leave New-York from Pier No. 1, North River, at 8 A. M., and 2 P. M.

EMIGRANT LINE,—At 4 o'clock P. M. Fare, $1,50.

STEAMBOAT TTENTON,—At 9 A. M., and 5 1-2 P. M., for Ta cony, Burlington, and Bristol.

STEAMBOAT JOHN STEVENS,—At 2 1-2 o'clock, P. M., for Bordentown and Intermediate places.

RAILROAD WAY LINE FOR BORDENTOWN AND INTERMEDIATE PLACES.

At 4 1-2 o'clock P. M., from Walnut street Wharf.
For Freehold at 8 A. M., and 2 P. M.
For Lambertville at 9 A. M., and 2 1-2 P. M.
For Mount Holly at 9 A. M., 2 1-2 and 4 1-2 P. M.
Office for inquiry, 44 Delaware Avenue.

WILLIAM H. GATZMER,
Agent C. & A. R. R. Co.

New-York and New-Haven Railroad.—Summer Arrangement.

May 3, 1852.—Trains out of New-York, leave near corner of Canal street and Broadway.

ACCOMMODATION AND SPECIAL.—At 7 and 11.30 A. M.; 4.15, (Express to Stamford and Norwalk, and stopping at all stations beyond,) and at 5.30 P. M., through to New-Haven. At 3.50 P. M., for Norwalk; at 8.50 A. M., and 6 30 P. M., for Port Chester. The 11.30 A. M. runs in connection with train from New-Haven to Hartford and Springfield, and with train over the Canal Road

EXPRESS TRAINS for New-Haven, Hartford, Springfield, Boston, Connecticut River and Vermont Railroads, to Ogdensburgh and Montreal.—At 8 A. M., stopping at Stamford and Bridgeport, connecting with the Housatonic and Naugatuck Railroads at Bridgeport, and Canal Railroad at New-Haven—and at 3.30 P. M., stopping at Stamford, Norwalk, and Bridgeport, connecting with Housatonic and Naugatuck Railroads at Bridgeport.

TRAINS INTO NEW-YORK.—Accommodation and Special—At 5.30, 7, and 9.35, A. M., and 4.20 P. M., through from New-Haven. At 6 A. M., from Norwalk—at 5.30 A. M., and 3.45 P. M., from Port Chester. The 9.35 A. M., receives passengers from Springfield and Hartford and Canal Railroads at New-Haven. The 4.20 P. M. receives passengers from Hartford and Springfield Railroads.

EXPRESS TRAINS leave New-Haven on arrival of trains from Boston, at 1.15 and 8.50 P. M., (stopping at Bridgeport, Norwalk, and Stamford;) leaving Boston at 8 A. M., and 3.45 P. M.

See large bill of advertisement at the Station House and principal Hotels.

GEO. W. WHISTLER, Jr.,
Superintendent.

New-York and Harlem Railroad.—Summer Arrangement.

On and after Monday, July 19th, the following trains will leave (Sundays excepted) City Hall Station, corner of Tryon Row and Centre street. Passengers also received at the Ticket Office, corner of Broome street and Bowery, and at Twenty-sixth street; also at the usual stopping places on the street.

1st. 7 30 A. M. Croton Falls Accommodation Train, stopping at all the usual way stations above Fordham.

2d. 10 A. M. Chatham Four Corners Mail Train, connecting with the Western Railroad Trains for Albany and Troy, or Springfield, stopping at all stations north of Fordham.

3d. 3 P. M. Chatham Four Corners Accommodation Train, connecting with Western Railroad Trains for Springfield, stopping at all stations north of White Plains, and on signal at intermediate stations between Fordham and White Plains for passengers going north of Croton Falls station.

4th. 3 30 P. M., White Plains Local Accommodation Train, stopping at all intermediate stations.

5th. 4 30 P. M., Croton Falls Accommodation Train, stopping at all the usual way stations.

6th 5 30 P. M. Croton Falls Accommodation Train, stopping at all the usual way stations south of White Plains, and at Kensico, Pleasantville, Newcastle, Bedford, Mechanicsville, and Purdy's on signal.

RETURNING.

1st Train. 6 A. M., from Croton Falls, Accommodation Train, stopping at Purdy's, Mechanicsville, Bedford, Newcastle, Pleasantville, and at Kensico on signal, and at all the way stations south of White Plains.

2d. 7 20 A. M., from Croton Falls, Accommodation Train, stopping at the way stations north of Fordham.

3d. 5 30 A. M., from Chatham Four Corners, stopping at, and the usual stations north of, White Plains; also Tuckahoe and William's Bridge.

4th. 1 15 P. M., from Croton Falls, Accommodation Train, stopping at, and all way stations north of, Harlem.

5th. 12 M., from Chatham Four Corners, in connection with Western Railroad, (East and West.) stopping at, and all intermediate stations north of, Fordham and Morrisania, Mott Haven and Harlem.

6th. 6 30 P. M., from White Plains, Local Accommodation Train, stopping at all intermediate stations.

Other Local Accommodation Trains leave the City Hall Station for William's Bridge at 11 30 A. M., and 6 30 P. M.

For Fordham, 7, 8 30, 9 30, A.M.; 1, 2 30, 5, 8 and 11 P.M.

Returning, leaves William's Bridge at 5 40 A.M., and 1 P.M. Leave Fordham at 5 45, 6 45, 8 30, 9 45 and 11 15 A.M., 2 15, 4 30, 6 30 and 9 15 P.M. Leave Mott Haven and Harlem at 6, 7, 8, 8 45, 10, 11 30 A.M.; 1 20, 2 30, 3 25, 4 45, 5 32, 6 45, 7 35 and 9 30 P.M.

For Sunday arrangement see hand bills.

M. SLOAT,
New-York, July 12th, 1852. Superintendent.

FARMER'S BOILERS, OR LAUNDRY KETTLES,

OF ALL SIZES, FOR SALE BY

BARTLETT, BENT & SON,

No. 238 WATER STREET, New-York.

Mar. 1y.*

TO PRACTICAL MEN.

Just Published.

NORRIS'S HAND BOOK FOR LOCOMOTIVE ENGINEERS AND MACHINISTS. 12mo. $1 50.

"Coming from such a source it is a work which we hail as a boon to the Engineering Communiiy."—*Scientific American.*

"With pleasure do we meet with such a work."—*Artisan.*

"The practical knowledge of such men can hardly be overestimated."—*Balt. Patriot.*

THE ASSAYER'S GUIDE; or Practical Directions to Assayers, Miners and Smelters for the Tests and Assays by heat or wet processes of the Ores of all the principal Metals, and of Gold and Silver Coins and Alloys. By O. M. LIEBER. 12mo. 75c.

THE PAPER HANGER'S COMPANION. By JAMES ARROWSMITH. 12mo. 75c.

A TREATISE ON A BOX ON INSTRUMENTS AND THE SLIDE RULE, for the use of GAUGERS, ENGINEERS, SEAMEN AND STUDENTS. By THOMAS KENTISH. Illustrated by numerous engravings. 12mo. $1.

THE PRACTICAL MODEL CALCULATOR, for MECHANICS, ENGINEERS, NAVAL ARCHITECTS, &c. By OLIVER BYRNE. In one vol. royal 8vo. $3 50.

HENRY CAREY BAIRD,

SUCCESSOR TO E. L. CAREY,

June, 3t. *Scientific Publisher, Philadelphia.*

UNION
AGRICULTURAL WAREHOUSE
AND
SEED STORE.

RALPH & CO.,

Manufacturers and Venders of Agricultural Implements and Machines, and Dealers in Field and Garden Seeds, Fruit and Ornamental Trees, Domestic Animals, Fertilizers, &c.,

NO. 23 FULTON ST., NEAR FULTON MARKET, NEW-YORK.

THE Subscribers announce to their friends and the public that they have opened an establishment for the manufacture and sale of articles as above, which they offer at moderate prices.

The principal Implements and Machines are made under their own immediate supervision, by experienced mechanics, from the best materials, and after recently improved models.

The SEED DEPARTMENT embraces all the approved varieties adapted to the field and garden culture of the West Indies, Mexico, and the whole territory of the United States; and the FRUIT and ORNAMENTAL TREES, as well as the DOMESTIC ANIMALS, furnished by us, will be of the choicest kinds, and selected by competent judges.

Among the FERTILIZERS are included the best quality of Peruvian Guano, Plaster, Bone Dust, and Native Phosphate of Lime.

In order to give an idea of our establishment, and to avoid replies to numerous inquiries, we have issued a "Descriptive Catalogue" of about 100 pages, containing the Price List, and various engravings illustrative of some of the articles we keep on sale, which will be furnished *gratis* to those who may apply for it personally or by mail.

All orders for goods, &c., will be punctually executed, which may be addressed to us, by mail or otherwise, accompanied with the money, or a draft at sight or acceptance on some responsible house in Boston, Philadelphia, or New-York.

The direction may be made in French, German, Spanish, Portuguese, or English, which should be written out in full, in a clear and intelligent manner, in order to avoid mistakes or delays, which might otherwise occur.

Produce on Consignment.—We are prepared to receive and sell on commission all kinds of Agricultural Produce, to immediately perishable; such as grain, seeds, indigo, cochineal, beef, pork, butter, eggs, rice, sugar, molasses, honey, wax, hides, cocoa, tobacco, cotton, wool, hemp, mahogany, &c. &c.

RALPH & CO.

March. 3m.

ALDERNEY & IMPROVED SHORT-HORN CATTLE.

Three thorough-bred Alderney Bull Calves, two of Nine, and one Eleven months old, raised from the choicest imported stock.

Also, Two thorough-bred short horn Bull Calves, Ten months old, raised on the Farm of Mr. T. P. REMINGTON, near Philadelphia, and FOR SALE by

AARON CLEMENT,

Cedar Street, above Ninth Street, Philadelphia.

Mar. tf.

ANDREWS & JESSUP,

No. 70 PINE STREET, New-York,

COMMISSION MERCHANTS

FOR THE SALE OF ALL KINDS OF

COTTON AND WOOLEN MACHINERY, LEATHER BELTING, &C.; BROKERS IN DYE-WOODS, DYE-STUFFS AND OILS. ALSO, IMPORTERS AND DEALERS IN EVERY VARIETY OF

MANUFACTURERS' ARTICLES.

Mar 1y.

D. F. BADEAU,

Designer and Engraver on Wood,

Mar: 3t. **102 NASSAU STREET, Corner Ann, NEW-YORK.**

GREAT SALE

OF SUPERIOR THOROUGH-BRED

SHORT-HORN CATTLE.

The subscriber will offer for sale his entire herd of choice Short-Horns, comprising 50 head, young and old, at Public Auction, on Wednesday, the 13th day of October, 1852, at one o'clock P.M., at his farm, 2½ miles from the City of Troy; reserving to himself one bid on five Cows and Heifers, and one Bull, say six head in all, and these to be pointed out previous to the commencement of the sale; this bid will be made public when the six animals are brought to the stand for sale. Should any gentleman advance on the single bid made by the proprietor, the highest bidder will be entitled to the animal. It is proper to say, the severe drought in this vicinity, reducing the hay crop one half, has decided the proprietor to make this sale at the time named, instead of next June, which he had purposed to do.

The well-established reputation of this herd in this Union, and in Canada, and the splendid herd it has measurably sprung from, viz., the famed herd of that eminent English breeder, the late Thomas Bates, Esq., renders it hardly necessary to comment upon its superior merits. It may not, however, be inappropriate to remark, that the establishment of this herd was commenced in 1838, and that the most careful attention has since been paid to its breeding, and that it now contains mostly all the reserved stock of two former public sales. Since 1840, the proprietor has imported from the late Mr. Bates, and his friends and late tenants, the Messrs. Bells, seven head of Short-Horns. And besides these, he has now on the passage across the Atlantic, shipped 21st of June, on board the packet ship "Kossuth," Capt. James B. Bell, a superior yearling roan Bull, having many crosses of the famed Duchess Bulls of Mr. Bates. Including this latter animal, and the beautiful red roan three year old Heifers, which came out from England last September, "Yarm Lass," and "Yorkshire Countess," and the beautiful Heifer Calf of the latter animal, got in England, by the Duchess Bull, "Fifth Duke of York;" there will be fourteen head of this imported stock, and its immediate descendants. There have been sold from this herd but three Heifers from these importations, and these Cows were sold at $300 each. All the young Bulls bred from these Cows, except those now offered for sale, have also been sold at private sale, $300 each, most of them while quite young.

Besides these 14 head of high-bred animals, the noble premium Cow, "Esterville Third," bred by E. P. Prentice, Esq., of Albany, and her equally fine two year old red and white Heifer, bred by me, got by the Bates Bull, "Meteor," and three of the famed Milking Willey Tribe, the same tribe of Cows as the Heifer, "Ruby," sold by me to Mr. S. P. Chapman, of Madison Co., and which Cow was awarded the first premium by the N. Y. State Agricultural Society, for producing the largest quantity of butter in ten days in June, and ten days in August, on grass pasture only, being a fraction over 40 lbs. in those twenty days. There are other valuable tribes in the herd, as the printed catalogue will show.

The catalogue will be ready for distribution about the 1st of August, and will exhibit richness of pedigrees rarely to be met with, showing the descent of the most of the animals, from the best animals on record in the English Herd Book. Having received an invitation from H. Strafford, last winter, to forward a list of the pedigrees of my herd to be inserted in the forthcoming volumes of the English Herd Book, of which Mr. Strafford is now the Editor, several pedigrees were sent to him of the animals here offered for sale, and will appear in said book.

A credit of nine months will be given on all sums up to $300, and nine and eighteen months on all sums over $300, for approved paper, with interest, payable at some bank in this State.

GEO. VAIL.

Troy, N. Y., July 9th, 1852. Aug. 3m.

HUGH CAMERON,

GENERAL AGENT FOR PUBLICATIONS,

THE ART UNION OF PHILADELPHIA,

AND THE MOHAWK VALLEY FIRE INSURANCE COMPANY,

TODD'S BUILDING, PENNSYLVANIA AVENUE.

WASHINGTON, D. C.

MR. C. IS ALSO AGENT FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

FRANCIS' PILOSITOUS COMPOUND

Is GUARANTEED to restore the hair in all cases. The conditions are made known in the circular that accompanies each bottle. For a toilet article, to beautify and soften the hair, to remove blotches and pimples from the skin, there is nothing superior. If the proprietor dealt in certificates, he could have had a large collection on hand, but his terms will satisfy every candid person as being perfectly equitable.

Contract prices vary from 20 to 75 dollars. His Perennial Compound is prepared to restore gray hair to its original color without dyeing, for which the contract price is $10 per head.

For sale by F. M. CRAKEN, 312 Broadway, New-York, who is the Sole Proprietor and Manufacturer. Price twenty-five cents per bottle, with a liberal discount to dealers. Foster & Makin, 70 Dock street, Philadelphia, A. S. Jordan, 191 Webster street, Boston, are agents, with other respectable Druggists throughout the Union. Dec. 51.

HENRY L. FOSTER,

LATE "BOOTH & FOSTER,"

CLOTHING AT WHOLESALE & RETAIL,

27 Courtland Street, New-York.

Clothing made to order in the best style, and sent to any part of the United States.

FRUIT AND ORNAMENTAL TREES

FOR SALE.

50,000 Peach of one and two years' growth, from the bud; 40,000 Apple; 5,000 Cherries; 5,000 Dwarf Pears—each containing all the most esteemed varieties, and of large size. Also Quinces, Plums, Nectarines, Apricots, Almonds, Grapes, Raspberries, Gooseberries, Currants, Strawberries, &c., &c.

50,000 Silver and Ash Leaved Maple Seedlings of one year's growth; 50,000 Apple seedlings. They will be sold in large or small quantities, and on the most reasonable terms. Catalogues, with prices annexed, will be sent to all applicants.

Hightstown, Mercer County, N. J., March, 1852.

ISAAC PULLEN.

PRINCE & CO.'S

IMPROVED MELODEON.

This instrument, formerly known as Carhart's Patent, has of late received valuable improvements by the manufacturers, G. A. Prince & Co., and now, as we believe, is recognized as the most perfect in its construction, and in the quality of its tones of any instrument of the kind yet offered to the musical public.

The cases are of rosewood, and as handsomely finished as a piano forte. The key board is precisely the same as the piano or organ, and the tone clear, pure, and round, and in volume equal to a small organ, and by means of a swell may be increased or diminished at the pleasure of the performer.

The key notes respond at the slightest touch, and will admit of the performance of as rapid passages on the piano. One pedal controls the swell, and the other supplies the wind, and works so easily that a child can manage it effectually.

Of these instruments, we understand that from 75 to 80 are made per week by Messrs. Prince & Co., at their manufactory in Buffalo, where they have one hundred and fifty men in constant employ.

For further particulars we refer our readers to Messrs. **W. HALL & SON, 239 Broadway**, who have lately become sole agents in this city for the sale of the above celebrated instruments.

SEVENTH ANNUAL REPORT
OF THE
NEW-YORK LIFE INSURANCE COMPANY,
NO. 106 BROADWAY,
MADE IN ACCORDANCE WITH THE PROVISIONS OF THE CHARTER.

Amount of Assets as per statement of Jan., 1851,..$354,755 24
During the year 1851, 1,329 Policies have been issued. The premiums during the same period amounted to.....$303,074 64
Amount received for interest,..... 18,708 08
$321,782 72

Disbursements.

Amount paid for losses by death, less discount for payments in advance,.....	$157,05 16	
Amount paid for expenses, viz.: Salaries, fees to physicians, trustees, clerk hire, &c.,.....	10,122 83	
Advertising, office rent, furniture, printing, stationery, &c.,.....	5,062 79	
Commissions, postages, medical examinations, exchange, &c., .	37,861 16	
Interest on dividends. dividend on subscription notes, re-insurances, &c.,.....	4,657 57	
Taxes,.....	3,494 34	
Return premiums allowed on cancelled policies,.....	1,534 01	
	219,786 86	
		101,995 86
		$456,751 10

Assets.

Invested in United States and New-York State Stocks, in accordance with the charter,.....	$185 866 59
Cash on hand,.....	26 079 11
Bonds and Mortgages,.....	62,577 00
Notes received for 40 per cent. on Life Policies,.....	175,016 53
Premiums on Policies in hands of Agents,	7,221 87
Total amount of accumulated Capital,.....	$456,751 10

The Board of Trustees have declared a dividend of FORTY PER CENT. on Policies for the whole term of Life, and SIX per cent. interest on former dividends.

The principles of this Company are purely mutual, so as to be the most economical and secu e to the members.

Dividends are made annually on all Life Policies in the shape of Stock, bearing interest at 6 per cent., payable in cash.

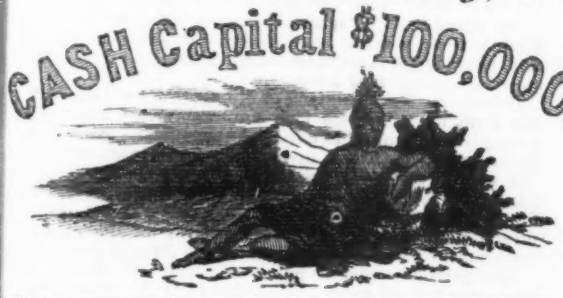
These Dividends have always been 40 and 50 per cent.; by this mode the annual premiums are regularly reduced from year to year.

On Life Policies, where the premiums amount to $50, 40 per cent. of it can be paid by note.

Pamphlets, containing full exposition of the principles and mode of operation, can be had gratis at the office of the Company, 106 Broadway, New-York, or at any of its A gencies.

MORRIS FRANKLIN, President.
PLINY FREEMAN, Actuary.
Jan. 31, 1852. Mar. 3m.

Manhattan Life Insurance Company,
108 *Broadway, Cor. Pine Street, N. Y.*



DEPOSITED WITH THE COMPTROLLER OF THE STATE FOR THE SECURITY OF ALL POLICY HOLDERS, exclusive of a large and rapidly augmenting Premium Fund.

Persons Insuring with this Company, will be entitled to their pro rata share of the first declared dividend. The rates and principles adopted have stood the test of experience, and must secure, beyond contingency, the object for which Life Insurance is effected, — immediate and permanent aid to the widow and orphan.

A. A. ALVORD, *President.*
C. Y. WIMPLE, *Secretary.* N. D. MORGAN, *Actuary.*
ABRAM DU BOIS, M.D., *Medical Examiner*, attends at the office daily, from 2 to 3 o'clock P.M.
Prospectuses to be had at the office gratis. Mar. 3m.

MECHANICS' UNION ASSOCIATION,
Office, CITY ASSEMBLY ROOM, 442 BROADWAY, New-York

Accumulated Cash and Guaranty Capital, $50,000.

M. B. DEAN, President.
W. PATTEN, G. C. WOOD, H. B. JUDKINS, Financial Committee.

This is an Association of Workingmen and others, for the mutual assistance of each other in case of sickness or accident. By the payment of the following annual deposits, you will become a life member, and will be entitled to a weekly benefit during life, if you should be disabled by sickness or accident from attending to your ordinary business or occupation. Females Insured against sickness common to both sexes.

Yearly Deposit of Members under 50 years of age.

$2 00	per year	draw	$3 00	per week.	
3 00	"	"	4 50	"	
4 00	"	"	6 00	"	
5 00	"	"	7 50	"	
6 00	"	"	8 75	"	
7 00	"	"	10 00	"	

Those over fifty years of age will be charged twenty-five per cent. extra. $1 50 admission fee will be charged in addition to the above, the first year, and must be paid at the time of application, and the first year's deposit within thirty days. mr.

Mechanics' Mutual Benefit Association of Springfield, Mass.,
Branch Office, 289 Broadway, New-York.

Accumulated Cash Capital, $33,000; Guaranty Capital, $60,000.

This is an Association of Mechanics and others, for their mutual relief in the case of sickness or accident, and at the decease of a member, this Association shall appropriate $20 as a Funeral Benefit, to be paid to the relatives of the deceased.

Annual Rates of Payment for Members under 50 years of age.

$2 00	draws	$2	per week.	$6 00	draws $6 per week.
3 00	"	3	"	7 00	" 7 "
4 00	"	4	"	8 00	" 8 "
5 00	"	5	"	Female Rates from $2 to $4.	

One Dollar and fifty cents, in addition to the above, will be charged as admission fee, for the first year.

S. C. FRINK, Secretary,
BROADWAY, First Floor, up stairs, room No. 10.

Mar. ex.

FAIRBANKS'

PLATFORM SCALES.

The subscribers keep constantly on hand every variety of these superior Balances, warranted in good faith to be ACCURATE, DURABLE, AND NOT LIABLE TO DERANGEMENT, or expense for repairs.

FAIRBANKS & CO.,
89 Water Street.

Certificate of the Inspectors of Weights and Measures in New-York.

"We, the undersigned, having had occasion to test the various Platform Scales now in use in the City of New York, are pleased to bear testimony to the superior character of those manufactured by E. & T. FAIRBANKS & CO., St. Johnsbury, Vt., and do cheerfully recommend them to the public as the most perfect Weighing Machines in use.

[M'y-6t] HENRY SWORDS, ENOCH DEAN, EDMUND WEEKS, JOHN S. EARLS, PETER ESQUIROL, JOHN W. WHEELER."

$25 ONLY

For eight village Lots, or one of Fifty Farms, containing from Four to Twenty Acres each, adjoining the Villages of Lake Land and Herman. ville—many of the Lots near these have already been sold for 100 per Cent advance over the price for which these Lots are now sold for, showing conclusively that the purchase will be a good investment.

The opportunity is now offered to all those who ever wish to obtain land on Long Island, the ancient "Garden of America," that will probably never occur again, for these lands are the only remaining new lands on the island, and are equal in quality, when cultivated, to any other land.

50 FARMS, WORTH OVER $10,000, AND 6,000 LOTS, TO BE DISTRIBUTED AMONG 800 SUBSCRIBERS.

Each subscriber is entitled to 8 Lots. 25x100 ft., lying together, or one of 50 farms containing from 4 to 20 acres each, for $25. The shares are limited at $25—payable, $5 when subscribed for, $5 on or before the day of distribution, and the balance in monthly instalments of $3.

The lots are situate in the Village of LAKELAND, on the Long Island Railroad, County of Suffolk, and 48 miles from the city of New York, where handsome buildings are erected.

The results of cultivation of these lands have been so great, so much beyond the expectations of any one, that they are now considered of great value for farms and gardens, and will, in all probability, be all taken up for settlement and occupation, or be held at more than five times their present price. All kinds of produce are raised there, such as wheat, rye, corn, potatoes and garden vegetables, with fruits and flowers, in the most luxuriant growth, where but a short time since the land was covered with trees and bushes.

I add the following letter from Mr. L'Hommedieu, who resides at Lakeland :—

LAKELAND HOTEL, NOV. 19, 1851.

Dear Sir—Having personal knowledge of the same, it gives me pleasure to answer your inquiry about the productions here, by stating that during the past season there have been raised 150 bushels of the best corn and potatoes to the acre, besides excellent yields of garden vegetables, as peas, beans, onions, squashes, pumpkins, beets, tomatoes, egg plants, &c.

IRA L'HOMMEDIEU, Deputy Postmaster

Also one from Mr. J. C. Boeckel :—

NEW YORK, July 2d, 1851

Dear Sir—I bought last year a farm of forty acres in the middle of the new Village of Hermanville, and I would not sell it now for $100 an acre

Very respectfully yours, &c

JOHN C. BOECKEL, 99 Essex-st. N. Y

To Charles Wood, Esq., 137 John-st N Y city

Lakeland Station is located on the borders of the Long Island Railroad, whence cars run several times a day to Brooklyn and New York The surface of the land is smooth and level, and the surrounding country is perfectly healthy, and within a few miles of this place, highly cultivated and valuable, having been settled for more than a hundred and fifty years, and where similar lands sell at from $50 to $200 per acre.

The surface of the ground is perfectly beautiful, free from stone, or bogs or marshes, and the climate as healthy as can be found in this latitude. The soil is a fine loam, admirably adapted to high cultivation and great crops, and of easy tillage.

When a man is industrious and attentive to his business, he soon becomes independent. Mr. John J. Stoothoff, of Jamaica, L. I., received in the year 1847, from about 30 acres of land, cultivated in Peaches, Peas, Potatoes, and Asparagus, about $3,600. He sent all his produce to market with teams, a distance of more than 12 miles.

Mr. Van Sicklin, of Jamaica, L. I., cultivates 69 acres of land at a cost of about $1,100 in labor and manure, and receives about $3,600 per year. (See American Agriculturist, Feb. No. 1848, and also the Transactions of the New York State Agricultural Society.) These important cases show what industry and prudence can do on Long Island land. The land of Messrs. Stoothoff and Van Sicklin is very much such land as this now offered for sale, being in the same range of the Island, and in no way superior to these new lands.

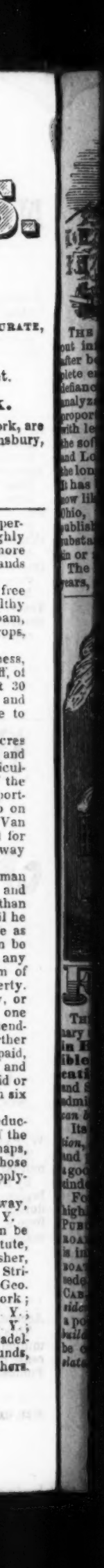
Indeed no New England or Northern New York man can form any adequate idea how much less labor and strength are required to cultivate these Island lands than that required to subdue their own rugged lands, until he has seen or made the trial; and I now offer for sale as handsome land, and intrinsically as valuable, as can be found within fifty miles of the City of New York, in any direction, in lots of five acres or more, for the sum of from $20 to $30 per acre, or exchange for city property.

Any person wishing to purchase a five, ten, twenty, or fifty acre lots of good and handsome land, without one foot of waste or useless ground on it, can do so by sending one dollar per acre for first payment, and the further sum of fifty cents a month per acre until one-half is paid, when a warrantee deed and good title will be given, and the remainder part of the purchase money may be paid or secured on the land, to be paid within five years, with six per cent, yearly interest.

The title is perfectly good—I have a history or deduction of the title complete—certified to by legal men of the highest character, which I will send by mail, with maps, pamphlets and all information, to all purchasers, or those who wish to be informed of these Island lands, by applying to

CHARLES WOOD, Stationer, 208 Broadway, corner of Fulton-st. N. Y.

☞ References as to the quality of the lands can be made to Hon. Henry Meigs of the American Institute, Rooms 351 Broadway. N. Y.; C. M. Saxton, publisher, Fulton-st. N. Y.; Dr. E. F. Peck, Brooklyn; G. H. Striker, Jr. New York; Liberty Gilbert, Troy, N. Y.; Geo. C. Morgan, Jr. New York; John C. Boeckel, N. York; J. C. Easton, Editor of Northern Journal Lowell, N. Y.; O. Squires, Editor of Herkimer Journal, Rockton, N. Y.; Chandler Foster, Albany, N. Y.; V B Palmer, Philadelphia and Boston; E. H. Pease, Albany, N. Y.; D Rounds, Mansville, Jefferson county, N. Y.; and many others. See pamphlet.



BLAKE'S

PATENT

FIREPROOF PAINT.

THE original and only genuine article that can be sold without infringing upon my patent. This article, in a few months after being applied, turns into slate or stone, forming a complete enamel or coat of mail over whatever is covered, bidding defiance to fire, weather, or water. It has been found, upon analyzation by Dr. J. R. Chilton, of this city, to consist of larger proportions of silica, alumina, protoxide of iron, and magnesia, with lesser of lime and carbon. The transition, therefore, from the soft paint to the hard slate is (in the opinion of Drs. Chilton and Lock) accounted for according to nature's own laws; and the longer it is on, the harder and more permanent it becomes. It has been tested about seven years, and that first applied is now like stone. It has also been tried in several fires in Akron, Ohio, where all the fire insurance companies have since published that they will insure buildings, &c., covered with this substance, at a lower rate of premium than those covered with tin or zinc, considering it a better fire-proof.

The Fair of the American Institute have, for the last three years, awarded to me the highest premiums. Diplomas have also been presented from the New-York State Fair, and the State Fair of Massachusetts.

LOOK OUT FOR FRAUD,

As there are scores of unprincipled individuals digging, grinding, and endeavoring to sell all kinds of worthless, counterfeit stuff, calling it fire-proof paint. No one can manufacture and sell the genuine without infringing on my patent, which, having been submitted to referees, and also to the Hon. Daniel Webster, is decided to be good and valid. I have just commenced three suits against different parties, and am determined to prosecute every person who infringes the patent; and those individuals who have given credence to the pirates will soon have an opportunity of defending themselves before a court of justice.

The original and genuine Patent Fire-Proof Paint, either in dry powder, or ground in oil, can at all times be had at the general depot, 84 Pearl st., New-York, from the patentee.

W. BLAKE.

My.'52.

THE DREADFUL RAVAGES

OF

FIRE!

MAY MANY TIMES BE ENTIRELY PREVENTED, BY USING

THE

GENUINE OHIO

FIRE-PROOF PAINT.

THIS invaluable Mineral Paint is one of the most extraordinary mineral products in the West, being very **Economical in Expense, Impervious to Water, Indestructible by Fire, and perfectly simple in its application.** For all kinds of WOOD, IRON, TIN, CLOTH, BRICK, and STUCCO WORK, it is the best article ever applied, and most admirably adapted for *every purpose where paint of any kind can be successfully and cheaply applied.*

Its efficacy in preserving wood from decay, iron from *oxidation*, and brick-work and masonry from *dampness*, is peculiar and positive. Its *incombustibility* is also remarkable, forming a good protection to roofs and buildings of wood from burning cinders, sparks, and falling flakes of fire.

For Wood or Brick COTTAGES, VILLAS, &c., it cannot be too highly recommended. For MANUFACTORIES, CHURCHES, and PUBLIC BUILDINGS, nothing can exceed it; and for all RAILROAD purposes, for *painting* BRIDGES, CARS, DEPOTS, &c., it is invaluable. It is now being used at the West for STEAMBOATS, with great satisfaction, and will doubtless soon supersede White Lead for that purpose. For COACH, CARRIAGE, CAB, CAR, and CABINET MAKERS, it is said to be a perfect *desideratum*, forming a surface as hard as marble, and receiving a polish as beautiful as porcelain. For all descriptions of *outbuildings, fences*, and particularly ROOFS, its value can scarcely be calculated—changing in a few months from a *paint* to a *slate* or *marble coating*, resisting both *fire* and *moisture*. The natural colors of the paint are *dark drab* and *chocolate*, which, however, if desired, are easily changed to any shade, from a drab to a stone, or dark slate color.

WARRNTED PURE, AND NO INFRINGEMENT,

AS THE FOLLOWING CERTIFICATE WILL FULLY SHOW.

A CARD TO THE PUBLIC.—In my circulars and advertisements, in which I have cautioned the Public against any infringement of my Patent Fire and Water Proof Paint, I had no reference to a Light Colored article, of Different Shades, sold by Mr. W. H. STARR, No. 67 Beekman street, in this city, nor are they intended to interfere with its sale or use.

New-York, June 26, 1849. WILLIAM BLAKE.

☞ **BEWARE OF FRAUDS!**

The GENUINE FIRE-PROOF PAINT, *direct from the mines*, can always be obtained, *without delay, warranted pure*, of the subscriber, who has the highest testimonials of its superior valuable qualities; and specimens of the paint applied, of ALL THE VARIOUS SHADES OF COLOR.

All orders for the *Genuine Article*, by the barrel or ton, either *dry* or *ground in oil*, will be supplied at REDUCED PRICES, by

W. H. STARR, 67 Beekman Street, N. Y.,

GENERAL AGENT FOR THE UNITED STATES.

WILDER'S PATENT SALAMANDERS,

WITH RICH'S IMPROVEMENT

The only Safes with Wilder's Patent & Rich's Patent

COMBINED, ARE MADE BY

146 Water St.,

STEARNS & MARVIN,

New-York.

The sole Proprietors of Rich's Patent, and joint Proprietors of Wilder's Patent with Silas C. Herring.

THE GREAT FIRE IN CHILLICOTHE, ONE THIRD THE TOWN BURNT TO ASHES!

CHILLICOTHE, OHIO, Tuesday, April 13th, 1852.

MESSRS. STEARNS & MARVIN—Gentlemen: Yours of the 5th is at hand. In reply, every Safe in the fire, except yours, has proved good for nothing. I lost a large Safe—it was perfectly destroyed; but in the small Salamander I bought from you, nothing was injured.

Your obedient Servant, W. T. CLEMSON.

The above letter shows that in a real hot fire RICH'S SALAMANDERS are the only Safes to be depended upon. In the Pearl street fire, eleven Safes, of different makers, were totally destroyed, Rich's Safe alone bidding defiance to the flames, preserving notes, bonds, and mortgages, to the value of $100,000. The Chillicothe fire is a parallel case—every Safe but Rich's is destroyed. These repeated occurrences prove incontestibly that Wilder's Patent Salamander, with Rich's improvement, are the best Safes made in the United States, or in the whole world. They can be had at the depot, No. 146 Water Street, and at the Factory, corner of St. Mark's Place and Avenue A, New-York.

STEARNS & MARVIN.

ALSO AT THE FOLLOWING AGENCIES:

Isaac Bridge, New Orleans, La.; L. M. Hatch, Charleston, S. C.; Thompson & Oudesluys, Balt., Md.; Holyoake, Lowns & Co., Memphis, Tenn.; Eddy & Morley, Toledo, O.; Allis & Howes, Evansville, Ind.; S. Shephard & Co., Buffalo, N. Y.; Walter K. Marvin, Lockport, N. Y.; Barney Brothers, Mobile, Ala.; Chas. H. Campfield, Savannah, Ga.; Hall and Moses, Columbus, Ga.; DeRosset & Brown, Wilmington, N. C.; W. Randall, St. Paul, M. T.; Morly & Raynolds, Cleveland, O.; Alfred Wright, Roch., N. Y.; J. Hutton, Montreal, Ca.; Starr & Mason, Camden, N. J.; J. H. Westcott, Plattsburgh, N. Y.; Ashley Brothers, Ogdensburgh, N. Y.; A. B. Merrian, Oswego, N. Y.; Dana & Co., Utica, N. Y.; Norton, Bradley, & Co., Syracuse, N. Y.

1 yr.* Jy.'52.

M. B. BRADY'S

NATIONAL MINIATURE GALLERY,

Nos. 205 & 207 BROADWAY, corner of Fulton St.,

NEW-YORK.

SPLENDID HORSES, AT AUCTION.

GIFFORD MORGAN, 4 years old Aug 26th.
ZACHARY TAYLOR, 2 " June 8th.

Both bay Morgan studs, color and marks alike, suited for a match, for stock, or fast, safe family horses.

TO BE SOLD AUGUST 25th, at 3 P.M.,

IN FRONT OF

J. P. FOGG'S Seed Store, 29 Buffalo Street,

ROCHESTER, N. Y.

ALSO, AT PRIVATE SALE, IF DESIRED,

A MARE,

Premium Morgan Horse, "General Clifford," and a Horse Colt by same sire by her side.

July 20th, 1852. 10 J. DORR.